MOHAWK

MADE IN THE USA

PARALLELOGRAM

SURFACE & FLUSH STYLE PARALLEGRAM VEHICLE LIFT MANUAL

- ☑ INSTALLATION
- ☑ OPERATION
- ☑ MAINTENANCE
- ☑ PARTS

THANK YOU
FOR SENDING IN YOUR
WARRANTY REGISTRATION
CARD

MOHAWK SERVICE
DEPARTMENT

See Manual for specific Models
Certified to ANSI/ALI ALCTV.

MOHAWK RESOURCES LTD.

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Parallelogram-12-18-2013.doc
Rev Date 12-18-2013 Part #601-800-371

READ MANUAL THOROUGHLY BEFORE INSTALLING, OPERATING OR SERVICING THIS LIFT !!
Deliver these instructions to lift owner/user/employer along with other instructional materials furnished with this lift.

IMPORTANT SAFETY INSTRUCTIONS

When using your garage equipment, basic safety precautions should always be followed, including the following:

1. Read this manual and review all illustrations of this manual thoroughly before attempting to install, operate or maintain this lift.

2. Deliver these operation, inspection, and maintenance instructions to the lift owner/user/employer along with the other instructional materials furnished with this lift.

3. Maintenance on this equipment is to be performed only by trained lift service personnel, and and worn or broken parts are to be replaced only with genuine Mohawk brand supplied parts.

4. Care must be taken as burns can occur from touching hot parts.

5. Do not operate equipment with a damaged cord or if the equipment has been dropped or damaged - until it has been examined by a qualified serviceman.

6. Do not let cord or hoses hang over edge of table, bench or counter or come in contact with hot manifolds or moving fan blades.

4. If an extension cord is necessary, a cord with a current rating equal to or more than that of the equipment should be used. Cords rated for less current than the equipment may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.

5. Always unplug equipment from electrical outlet when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect

6. To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline). WARNING: Risk of Explosion: This equipment has internal arcing and sparking parts which should not be exposed to flammable vapors. This equipment is only suitable for installation in a garage having sufficient air circulation to be considered a non-hazardous location.

7. Adequate ventilation should be provided when working on operating internal combustion engines.

8. Keep hair, loose clothing, fingers, and all parts of body away from moving parts.

9. To reduce the risk of electric shock, do not use on wet surfaces or expose to rain.

10. Use only as described in this manual. Use only manufacturer’s (Mohawk) recommended attachments.

11. ALWAYS WEAR SAFETY GLASSES. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.

SAVE THESE INSTRUCTIONS **Rev (10/22/99)**

APPENDAGE:

(6/19/2012)

LIFT ENVIRONMENT:

Mohawk prohibits the outdoor installation of this standard lift, which is APPROVED FOR INDOOR USAGE ONLY, in a normal garage type environment. Any concerns in applications that expose the lift to additional environmental effects, such as paint booths, wash bays, outdoors, high or low temperatures, etc. must be addressed to our engineering department, where provisions could/may be made to the lift to accommodate the area of use. Our engineering department must be made aware in advance of these conditions and any additional code requirements that must be met.

Also, the foundation for which this lift must be installed on must comply to the minimum specifications as set forth in this manual. Any drainage slopes in the bay where the lift is to be installed must be directed away from the base pads to prevent water accumulation at the anchors.

Standard foundation flooring and anchorage specifications are contained within this manual. For installation within a seismic area, a qualified person must be consulted to address seismic loads and other local or state requirements.

ACCESSORIES:

All accessories (i.e. Lifting Pads, Height Adapters, Wheel Adapters, Turf Adapters) supplied with this lift are to be used on this lift only. Accessories from other lifts are not acceptable and could result in injury to the user.

If attachments, accessories or configuration modifying components are used on this lift and, if they are not certified for use on this lift, then the certification of this lift shall become null and void. Contact the participant (Mohawk Resources Ltd.) for information pertaining to certified attachments, accessories or configuration modifying components.

RJ-50P JACKING BEAMS:

Only certified RJ-50P Jacking Beams are intended for use on certified versions of the Mohawk Parallelogram Lifts (See next page for list of certified lifts) Follow load rating of beam dependant on what lift it is on. Use of non-certified jacking beams on certified lifts will void the certification of the lift.

Use of a pair of Jacking Beams is allowable, but the minimum distance between centerline of the beams (cylinders) is **14 feet minimum**.

Loading of the jacking beams or combinations of jacking beams above the rated capacity of the lift itself could result in personal injury to the operator and/or damage to the lift and/or vehicle. The load rating of any jacking beam or combination of jacking beams on this unit must not exceed the rated capacity of the lift.

LIGHT KIT:

Only the certified Light Kit is intended for use on certified versions of the Mohawk Parallelogram Lifts (See next page for list of certified lifts). Use only lights provided from Mohawk for this kit. Light kit receptacle is intended for lights only, and must not be used as an industrial outlet. Rating for light kit receptacle is 120 VAC, 60 Hz, 5 Amp. Lights are 40 watt, 120 VAC, 60 hz, 1/3 amp each.

LOCKOUT/TAGOUT REQUIREMENTS:

The start switch provided with this unit must not be used as a primary disconnecting means. A separate disconnecting means must be provided in accordance with all applicable codes. It is the responsibility of the owner/user of this unit to provide a proper lockout/tagout device for this unit before or during installation in conformance to ANSI Z244.1 and any local/state/national electrical codes and any OSHA regulations.

HAVE A QUESTION?

Call your local
Mohawk distributor
For parts, service and technical support.

Distributor Place Card Here

Please have this unit's model and serial number when calling for service.

Model Number _____

Serial Number _____

OR CONTACT:

MOHAWK RESOURCES LTD.
65 Vrooman Ave.
P.O. Box 110
Amsterdam, NY 12010
Toll Free: 1-800-833-2006
Local: 1-518-842-1431
Fax: 1-518-842-1289
Internet: www.MOHAWKLIFTS.com
E-Mail: Service@MOHAWKLIFTS.com

MOHAWK WARRANTIES

EFFECTIVE DATE: **8/1/2013***

GENERAL WARRANTY INFORMATION:

MOHAWK'S OBLIGATION UNDER THIS WARRANTY IS LIMITED TO REPAIRING OR REPLACING ANY PART OR PARTS RETURNED TO THIS FACTORY, TRANSPORTATION CHARGES PREPAID, WHICH PROVE UPON INSPECTION TO BE DEFECTIVE AND WHICH HAVE NOT BEEN MISUSED. DAMAGE OR FAILURE TO ANY PART DUE TO FREIGHT DAMAGE OR LACK OF REQUIRED REGULAR DOCUMENTED MAINTENANCE IS NOT COVERED UNDER THIS WARRANTY. ALL WARRANTY CLAIMS MUST BE PERFORMED IN ACCORDANCE TO MOHAWK'S WARRANTY PARTS RETURN POLICY (CONTACT MOHAWK'S SERVICE DEPARTMENT FOR MORE INFORMATION).

THIS WARRANTY DOES NOT COVER MIS-DIAGNOSING OF UNIT OR PARTS RETURNED THAT ARE NON-DEFECTIVE. THIS WARRANTY DOES NOT COVER ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, LOST REVENUES OR BUSINESS HARM. THIS EQUIPMENT HAS BEEN DESIGNED FOR USE IN NORMAL COMMERCIAL VEHICLE MAINTENANCE APPLICATIONS. A SPECIFIC INDIVIDUAL WARRANTY MUST BE ISSUED FOR UNITS THAT DEVIATE FROM INTENDED USAGE, SUCH AS HIGH CYCLE USAGE IN INDUSTRIAL APPLICATIONS, OR USAGE IN EXTREMELY ABUSIVE ENVIRONMENTS, ETC. MOHAWK RESERVES THE RIGHT TO DECLINE RESPONSIBILITY WHEN REPAIRS HAVE BEEN MADE OR ATTEMPTED BY OTHERS. THIS WARRANTY DOES NOT COVER LABOR. THIS WARRANTY DOES NOT COVER DOWNTIME EXPENSES INCURRED WHEN UNIT IS IN REPAIR. THE LIFT MUST BE REGISTERED WITHIN 30 DAYS OF INSTALLATION BY MAILING SUPPLIED WARRANTY REGISTRATION CARD TO MOHAWK AND MUST BE SIGNED BY A LICENSED ELECTRICIAN. THE MODEL NAME AND SERIAL NUMBER OF THE EQUIPMENT MUST BE FURNISHED WITH ALL WARRANTY CLAIMS. THIS WARRANTY STATEMENT CONTAINS THE ENTIRE AGREEMENT BETWEEN MOHAWK RESOURCES LTD. AND THE PURCHASER UNLESS OTHERWISE SPECIFICALLY EXPRESSED IN WRITING. THIS NON-TRANSFERABLE WARRANTY APPLIES TO THE ORIGINAL PURCHASER ONLY. THIS WARRANTY IS APPLICABLE TO UNITS LOCATED ONLY IN THE UNITED STATES OF AMERICA AND CANADA. CONTACT MOHAWK RESOURCES LTD. FOR SPECIFIC WARRANTY PROVISIONS FOR UNITS LOCATED OUTSIDE OF THESE COUNTRIES.

THIS WARRANTY DOES NOT COVER NORMAL SURFACE WEAR ITEMS, ITEMS SUBJECT TO ABRASION, OR ITEMS USED IN A CORROSIVE ENVIRONMENT. SOME ITEMS ON LIFT ARE SUBJECT TO NORMAL "WEAR AND TEAR" AND ARE NOT COVERED UNDER THIS WARRANTY.

STRUCTURAL COMPONENTS (ALL LIFTS):

STRUCTURAL AND MECHANICAL COMPONENTS OF THIS UNIT ARE GUARANTEED FOR THE BELOW STATED TIME FRAME, SPECIFIC TO MODEL LISTED, FROM THE DATE OF SHIPMENT FROM FACTORY, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS.

25-YEARS STRUCTURAL / 10 YEARS MECHANICAL: MODELS A-7, SYSTEM IA-10, LC-12, LC-12-3SA, LMF-12, TP-16, TP-18, TP-20, TP-26, TP-30. STRUCTURAL ITEMS COVERED INCLUDE LEG, CARRIAGE, SWING ARM AND SLIDER WELDMENTS (EXCLUDING NORMAL WEAR AREAS AS STATED ABOVE). MECHANICAL ITEMS COVERED INCLUDE ROLLER BEARINGS AND LIFTING CHAIN.

5-YEAR: MODELS TL-7.
3-YEAR: MODELS TR-19, TR-25, FL-25, TR-30, TR-33, TR-35, TR-50, TR-75, TR-110, TR-120, MP-SERIES, RP-SERIES LIFTS.
2-YEAR: MODELS PARALLELOGRAM SERIES LIFTS.
1-YEAR: MODELS TD-1000, TD-2000, CT-1000, USL-6000.

POWER UNIT (ALL LIFTS):

ALL POWER UNIT COMPONENTS (MOTOR, PUMP AND RESERVOIR) ARE GUARANTEED FOR TWO YEARS FOR PARTS, FROM THE DATE OF SHIPMENT FROM FACTORY, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED, CONNECTED BY A LICENSED ELECTRICIAN AND USED ACCORDING TO SPECIFICATIONS.

ELECTRICAL COMPONENTS (ALL LIFTS):

ALL ELECTRICAL COMPONENTS (EXCLUDING MOTOR) ARE GUARANTEED FOR ONE YEAR FOR PARTS, FROM THE DATE OF SHIPMENT FROM FACTORY, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS.

PNEUMATIC-AIR COMPONENTS (ALL LIFTS):

ALL PNEUMATIC (AIR) COMPONENTS (I.E. AIR CYLINDERS AND POPPET AIR VALVES) ARE GUARANTEED FOR ONE YEAR FOR PARTS, FROM THE DATE OF SHIPMENT FROM FACTORY, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS.

HYDRAULIC CYLINDERS (MODEL SPECIFIC LIFTS):
THE FOLLOWING MODELS ARE GUARANTEED FOR 5 YEARS (PARTS ONLY), FROM DATE OF SHIPMENT FROM FACTORY, FOR HYDRAULIC CYLINDERS, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS: A-7, SYSTEM IA-10, LC-12, LC-12-3SA, LMF-12, TP-16, TP-18, TP-20, TP-26, TP-30.

ALL OTHER MODELS ARE GUARANTEED FOR TWO YEARS (PARTS ONLY), FROM THE DATE OF SHIPMENT FROM FACTORY, FOR HYDRAULIC CYLINDERS, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS (EXCLUDING USL-6000, WHICH IS ONE YEAR).

AFTER THE FIRST 5 YEARS FROM DATE OF SHIPMENT FROM FACTORY, THE "*EXTENDED LIFETIME CYLINDER SEAL WARRANTY*" (BELOW) IS APPLICABLE TO THE FOLLOWING MOHAWK LIFTS ONLY: A-7, SYSTEM IA-10, LC-12, LC-12-3SA, LMF-12, TP-16, TP-18, TP-20, TP-26, TP-30. SEE MOHAWK'S "*EXTENDED LIFETIME CYLINDER SEAL WARRANTY*" FOR SPECIFIC WARRANTY PROVISIONS FOR HYDRAULIC CYLINDERS.

THE "***EXTENDED LIFETIME CYLINDER SEAL WARRANTY***" IS AS FOLLOWS:

AS THE ORIGINAL PURCHASER OF A MOHAWK LIFT MANUFACTURED BY MOHAWK RESOURCES, LTD. YOU ARE ENTITLED TO AN EXTENDED CYLINDER SEAL WARRANTY. TO QUALIFY FOR THIS WARRANTY, THE FOLLOWING CONDITIONS MUST BE MET:

ALL LIFTS MUST BE REGISTERED WITH MOHAWK RESOURCES, LTD., P.O. BOX 110, 65 VROOMAN AVENUE, AMSTERDAM, NY 12010, WITH THE ORIGINAL CUSTOMER NAME, ADDRESS AND PHONE NUMBER, WITHIN 30 DAYS OF INSTALLATION. (USE POSTAGE PAID WARRANTY REGISTRATION CARD ATTACHED TO THE FRONT OF THE MANUAL PROVIDED.)

MOHAWK'S OBLIGATION UNDER THIS WARRANTY IS LIMITED TO SUPPLYING MODEL SPECIFIC CYLINDER SEALS. THE CUSTOMER IS RESPONSIBLE FOR SHIPPING AND HANDLING OF THE SEALS. MOHAWK IS NOT RESPONSIBLE/LIABLE FOR THE REBUILD OF CYLINDERS BY OTHERS. THIS WARRANTY IS NON-TRANSFERABLE AND RUNS TO THE ORIGINAL PURCHASER ONLY.

STANDARD OPTIONS (ALL LIFTS):
ALL STANDARD OPTIONS OF THIS UNIT ARE GUARANTEED FOR ONE YEAR FOR PARTS, FROM THE DATE OF SHIPMENT FROM FACTORY, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS.

CUSTOM LIFTS AND OPTIONS:
ALL "CUSTOM" LIFTS AND/OR "CUSTOM" OPTIONS ARE GUARANTEED ON A CASE-BY-CASE BASIS. CONSULT MOHAWK FACTORY FOR DETAILS ON SPECIFIC CUSTOM LIFTS AND/OR OPTIONS.

WARRANTY EXCEPTIONS (ALL LIFTS):
ADJUSTMENTS: THIS WARRANTY DOES NOT COVER CASUAL AND ROUTINE ADJUSTMENTS SUCH AS, BUT NOT LIMITED TO: FITTINGS, ANCHOR BOLT RE-TIGHTENING, OR ANY SHIMMING OR ADJUSTMENTS REQUIRED DURING A PROPER AND PROFESSIONAL INSTALLATION BY A QUALIFIED INSTALLER.
MAINTENANCE AND INSPECTIONS: IF THIS UNIT IS NOT MAINTAINED AND INSPECTED IN ACCORDANCE TO THE RELEVANT SECTIONS IN THE USERS MANUAL FOR THIS SPECIFIC MODEL, WARRANTY IS VOID. OSHA, ANSI AND MOHAWK REQUIRE THAT RECORDS MUST BE MAINTAINED TO PROVE THAT INSPECTIONS AND MAINTENANCE OF THIS UNIT HAVE BEEN ROUTINELY PERFORMED BY QUALIFIED INDIVIDUALS.
ABUSE: IF THIS UNIT IS FOUND TO BE OVERLOADED (PURPOSELY OR UNKNOWINGLY), USED IN A SITUATION BEYOND ITS INTENDED FUNCTION, NOT MAINTAINED OR INSPECTED REGULARLY, OR USED IN AN ABUSIVE ENVIRONMENT OR BEYOND NORMAL SHOP USAGE, ETC., THIS WARRANTY IS VOID IN ITS ENTIRETY.
NON-EXISTENT PROBLEMS: FOR SERVICE VISITS, PART REPLACEMENTS, LABOR, ETC. FOR PARTS FOUND TO BE NON-DEFECTIVE, OR FOR A UNIT DIS-FUNCTION THAT DOES NOT EXIST, IT IS THE LIFT OWNER THAT REQUESTED THE SERVICE VISIT WHO BEARS THE RESPONSIBILITY OF ALL RELATED EXPENSES.
BATTERIES: ALL BATTERIES CARRY THE BATTERY MANUFACTURER'S WARRANTY. MAINTENANCE REQUIREMENTS AND ABUSE PROVISIONS ARE AS STATED BY THE BATTERY MANUFACTURER. REFER TO BATTERY MANUFACTURER'S WARRANTY.
SPECIAL/MODIFIED INSTALLATIONS: THIS WARRANTY DOES NOT COVER "NON-TRADITIONAL" INSTALLATIONS. INSTALLATIONS ARE TO BE DONE ACCORDING TO SPECIFICATIONS, OR THE WARRANTY IS VOID.
WEARABLE COMPONENTS: SOME ITEMS ON LIFTS ARE SUBJECT TO NORMAL "WEAR AND TEAR" AND ARE NOT COVERED UNDER THIS WARRANTY.

*** THIS WARRANTY SUPERSEDES ALL OTHER WARRANTY POLICIES PREVIOUSLY STATED AND IN ALL OTHER MOHAWK PRODUCT SPECIFIC LITERATURE (MANUALS, BROCHURES, ETC.).**

MODEL NAMES & VARIATIONS:

NOTE: THIS MANUAL IS SUITABLE FOR USE WITH VARIOUS LIFT MODEL CONFIGURATIONS. REFER TO SERIAL TAG ON LIFT AND TABLE BELOW FOR LIFT SPECIFICATIONS.

MODEL NAME	ALCTV Certified	CAPACITY (1000 x LBS)	TRACK LENGTH (FT)	SURFACE (S) OR FLUSH (F) MOUNT
36-28-S	YES	36	28	S
38-26-S	YES	38	26	S
40-35-S	YES	40	35	S
45-35-S	YES	45	35	S
50-26-S	YES	50	26	S
50-32-S	YES	50	32	S
50-35-S	YES	50	35	S
50-42-S	YES	50	42	S
50-48-S	YES	50	48	S
75-26-S	YES	75	26	S
75-30-S	YES	75	30	S
75-35-S	YES	75	35	S
75-42-S	YES	75	42	S
75-48-S	YES	75	48	S
100-42-S	YES	100	42	S
100-48-S	YES	100	48	S
36-28-F	YES	36	28	F
38-26-F	YES	38	26	F
40-35-F	YES	40	35	F
45-35-F	YES	45	35	F
50-26-F	YES	50	26	F
50-32-F	YES	50	32	F
50-35-F	YES	50	35	F
50-42-F	YES	50	42	F
50-48-F	YES	50	48	F
75-26-F	YES	75	26	F
75-30-F	YES	75	30	F
75-35-F	YES	75	35	F
75-42-F	YES	75	42	F
75-48-F	YES	75	48	F
100-42-F	YES	100	42	F
100-48-F	YES	100	48	F

SEE INFORMATION ON NEXT PAGE CONCERNING CERTIFIED LIFTS

THIS SECTION REFERS ONLY TO MOHAWK PARALLELOGRAM LIFT MODELS (LISTED AND DESIGNATED AS CERTIFIED ON PREVIOUS PAGE) THAT HAVE BEEN TESTED AND CERTIFIED TOM MEET THE REQUIREMENTS OF ANSI/ALI ALCTV-2006

The Automotive Lift Institute (ALI) is a trade association comprised of US and Canadian manufacturers and certain national distributors of automotive lifts. For almost 50 years, the ALI in cooperation with the American National Standards Institute (ANSI) has continued to sponsor the national standard ANSI/ALI ALCTV:2011 "Safety Requirements for Construction, Testing, and Validation for Automotive Lifts."

The new "ALI/ETL Automotive Lift Certification Program" is based on ALI developed methods and criteria for third party testing of automotive lifts to validate conformance with ANSI/ALI ALCTV:2011.

For automotive lifts to be certified, manufacturers must execute an agreement with the ALI and ETL / Intertek Testing Services and must meet certain requirements:

- Must be structurally tested in accordance with the test requirements as outlined in ANSI/ALI ALCTV:2011.
- All motor operated units must be listed by a nationally recognized testing laboratory (NRTL) in accordance with ANSI/UL-201.
- The manufacturer's production facility must meet quality control requirements as set forth in the ANSI Z34.1-1987 and the ALI/ETL Automotive Lift Certification Program Procedural Guide.
- All manufacturer-provided instructions, manuals, and operator safety documents, must meet the requirements of the ANSI/ALI ALCTV:2011 and ANSI/UL-201.

Lifts meeting these rigid requirements may be listed in the directory of certified lifts and be labeled with the "ALI/ETL certification mark" (Above on right), and, if applicable, the ETL listing mark to ANSI/UL-201.

Mohawk has been a long-standing member of ALI and most of Mohawk's popular models are currently listed and certified. Other Mohawk models are in various stages of testing. To obtain a complete and current certification listing, contact Mohawk Resources Ltd. or visit **www.mohawklifts.com** or **www.ali-directory.org** To obtain a copy of the current automotive lift standard, contact ALI or ANSI or visit **www.autolift.org**

Some people purchase quality products and others do not. You are assured of quality when you purchase a Mohawk product in compliance with the certification program.

CONTENTS

TEXT

	PAGE
GENERAL NOTES & WARNINGS	2
SPECIFICATIONS	3
PACKING LIST	4
RECOMMENDED TOOL LIST	5
BEFORE INSTALLING A LIFT	6
INSTALLATION INSTRUCTIONS	7-8
OPERATION INSTRUCTIONS	9-10
SAFETY TIPS	11
PRE - OPERATION CHECK LIST / LIFTING PROCEDURES	12
MAINTENANCE PROCEDURES	13
MANUAL CONTROLS	14
TROUBLE SHOOTING	15-16
TROUBLE SHOOTING, ERROR MESSAGES	17
SERVICE & MAINTENANCE CHART	18

FIGURES / DIAGRAMS

	FIGURE	PAGE
WEJ-IT INSTALLATION	1	20
WEJ-IT INSTALLATION, CONT	2	21
WEJ-IT INSTALLATION, CONT	3	22
REUSABLE FITTING INSTALLATION	4	23
PLATFORM SETUP & SHIMMING	5	24
PULLING HOSE THROUGH CONDUIT TIP	6	25
PLATFORM IN-FLOOR CONDUIT CONNECTIONS	7	26
CONSOLE CONNECTIONS	8	27
CONSOLE CONNECTIONS	9	28
CONTROL PANEL & LIFT ELECTRICAL CONNECTIONS	10	29
CONTROL PANEL FIELD ELECTRICAL CONNECTIONS	11	30
ELECTRICAL WIRING, LIFT, 4 LEG	12	31
ELECTRICAL WIRING, LIFT, 6 LEG	13	32
REED SWITCH POSITIONING, LOCKS OPEN	14	33
REED SWITCH POSITIONING, LOCKS CLOSED	15	34
HOME SWITCH ADJUSTMENT PROCEDURE	16	35
CONSOLE PNEUMATIC CONNECTIONS	17	36
CONSOLE MANUAL OVERRIDE CONTROLS	18	37
PARALLELOGRAM SHIMMING	19	38-39

MISCELLANEOUS INFORMATION

TURCK INTRINSICALLY SAFE BARRIER CERTIFICATE
BEI INTRINSICALLY SAFE ENCODER BARRIER DRAWINGS
BEI INTRINSICALLY SAFE ENCODER DRAWINGS

SURFACE MOUNT INSTALLATION DRAWINGS

THIS PACKET OF DRAWINGS CONTAINS SURFACE INSTALLATION INFORMATION FOR PREPARATION OF FLOOR, GENERAL DIMENSIONS OF LIFT, AND GENERAL INSTALLATION INSTRUCTIONS **FOR A STANDARD 50-26-S LIFT.**

FLUSH MOUNT INSTALLATION DRAWINGS

THIS PACKET OF DRAWINGS CONTAINS FLUSH INSTALLATION INFORMATION FOR PREPARATION OF FLOOR, GENERAL DIMENSIONS OF LIFT, AND GENERAL INSTALLATION INSTRUCTIONS **FOR A STANDARD 50-26-F LIFT.**

PARTS DRAWINGS

THIS PACKET OF DRAWINGS CONTAINS REPRESENTATIVE ASSEMBLY DRAWINGS WITH PART BREAKDOWNS.

UNIFORM WARNING, CAUTION & SAFETY DIAGRAMS

ALL INFORMATION, ILLUSTRATIONS, AND SPECIFICATIONS IN THIS MANUAL ARE BASED ON THE LATEST PRODUCT INFORMATION AVAILABLE AT THE TIME OF PRINTING. WE RESERVE THE RIGHT TO MAKE CHANGES AT ANY TIME WITHOUT NOTICE.

GENERAL NOTES & WARNINGS

RECOMMENDATIONS BY THE INDIVIDUAL USER OR USING ORGANIZATION FOR IMPROVING THIS PUBLICATION OR ANY ASPECT OF THE PRODUCT ARE ENCOURAGED AND SHOULD BE FORWARDED IN WRITING TO:

MOHAWK RESOURCES LTD.
PRODUCT IMPROVEMENTS
65 VROOMAN AVE.
AMSTERDAM, NY, 12010

THIS IS NOT A VEHICLE LIFTING PROCEDURE MANUAL AND NO ATTEMPT IS MADE OR IMPLIED HEREIN TO INSTRUCT THE USER IN LIFTING METHODS PARTICULARLY TO THE INDIVIDUAL APPLICATION OF THE EQUIPMENT DESCRIBED IN THIS MANUAL. RATHER, THE CONTENTS OF THIS MANUAL ARE INTENDED AS A BASE LINE FOR OPERATION, MAINTENANCE, TROUBLE SHOOTING, AND PARTS LISTING OF THE UNIT AS IT STANDS ALONE AND AS IT IS INTENDED AND ANTICIPATED TO BE USED IN CONJUNCTION WITH OTHER EQUIPMENT.

PROPER APPLICATION OF THE EQUIPMENT DESCRIBED HEREIN IS LIMITED TO THE PARAMETERS DETAILED IN THE SPECIFICATIONS AND THE USES SET FORTH IN THE DESCRIPTIVE PASSAGES. ANY OTHER PROPOSED APPLICATION OF THIS EQUIPMENT SHOULD BE DOCUMENTED AND SUBMITTED IN WRITING TO MOHAWK RESOURCES LTD. FOR EXAMINATION. THE USER ASSUMES FULL RESPONSIBILITY FOR ANY EQUIPMENT DAMAGE, PERSONAL INJURY, OR ALTERATION OF THE EQUIPMENT DESCRIBED IN THIS MANUAL OR ANY SUBSEQUENT DAMAGES.

DO NOT WELD, APPLY HEAT, OR MODIFY THIS EQUIPMENT IN ANY MANNER WITHOUT WRITTEN AUTHORIZATION FROM MOHAWK RESOURCES LTD. CERTAIN ALLOY OR HEAT-TREATED COMPONENTS MAY BE DISTORTED OR WEAKENED, RESULTING IN AN UNSAFE CONDITION.

MOHAWK RESOURCES LTD. IS NOT RESPONSIBLE FOR DISTORTIONS, WHICH RESULT FROM WELDING ON THIS EQUIPMENT AFTER MANUFACTURING IS COMPLETED. UNAUTHORIZED WELDING, APPLICATION OF HEAT, OR MODIFICATION OF THIS EQUIPMENT VOIDS ANY AND / OR ALL APPLICABLE WARRANTIES COVERING THIS EQUIPMENT.

ALL WARRANTIES APPLICABLE TO THIS EQUIPMENT ARE CONTINGENT ON STRICT ADHERENCE TO THE MAINTENANCE SCHEDULES AND PROCEDURES IN THIS MANUAL.

KEEP ALL SHIELDS AND GUARDS IN PLACE. INSURE ALL SAFETY MECHANISMS ARE OPERABLE. KEEP HANDS, FEET, AND CLOTHING AWAY FROM POWER-DRIVEN AND MOVING PARTS.

WARNING

- DO NOT INSTALL THIS UNIT IN A PIT OR DEPRESSION DUE TO FIRE OR EXPLOSION RISK

IMPORTANT NOTE

A LEVEL FLOOR IS SUGGESTED FOR A PROPER INSTALLATION SITE AND WILL ENSURE LEVEL LIFTING. SMALL DIFFERENCES IN FLOOR SLOPES MAY BE COMPENSATED FOR WITH SPECIAL LIFTING PADS. ANY MAJOR SLOPE CHANGES WILL AFFECT THE LOW PROFILE HEIGHT OF THE LIFTING PADS AND / OR THE UNITS LEVEL LIFTING PERFORMANCE. IF A FLOOR IS OF QUESTIONABLE SLOPE, CONSIDER A SURVEY OF THE SIGHT AND / OR THE POSSIBILITY OF POURING A NEW LEVEL CONCRETE SLAB SECTION. SIMPLY STATED, FOR OPTIMUM LEVEL LIFTING, THE EQUIPMENT, AT BEST, CAN LIFT ONLY AS LEVEL AS THE FLOOR ON WHICH IT IS LOCATED... AND SHOULD NOT BE EXPECTED TO COMPENSATE FOR DRASTIC FLOOR SLOPE DIFFERENCES.

THIS EQUIPMENT MUST BE INSTALLED ON A LEVEL CONCRETE FLOOR WITH A MINIMUM THICKNESS OF **6" ON GRADE.** THE CONCRETE MUST BE AGED AT LEAST (28) TWENTY EIGHT DAYS PRIOR TO INSTALLATION AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF **4000 P.S.I.** REFER TO INSTALLATION INSTRUCTIONS FOR ADDITIONAL REQUIRED SPECIFICATIONS OF FLOOR.

DO NOT INSTALL THIS UNIT ON ANY ASPHALT SURFACE.

DO NOT INSTALL THIS UNIT ON ANY SURFACE OTHER THAN CONCRETE CONFORMING TO THE MINIMUM SPECIFICATIONS STATED IN THE PRE-EXISTING FLOOR REQUIREMENTS SECTION.

DO NOT INSTALL THIS UNIT ON EXPANSION SEAMS OR ON CRACKED, DEFECTIVE CONCRETE. CHECK WITH BUILDING ARCHITECT.

DO NOT INSTALL THIS UNIT ON A SECOND FLOOR OR ANY GROUND FLOOR WITH A BASEMENT BENEATH WITHOUT WRITTEN AUTHORIZATION FROM THE BUILDING ARCHITECT.

INSTALL THIS EQUIPMENT ON CONCRETE ONLY

IF, FOR ANY REASON, A NEW CONCRETE SLAB SECTION IS REQUIRED, THE MINIMUM THICKNESS, COMPRESSIVE STRENGTH, AND AGING ARE MANDATORY. FOR YOUR PROTECTION, CERTIFIED STRENGTH DOCUMENTATION SHOULD BE OBTAINED FROM THE FIRM WHO SUPPLIES THE CONCRETE MIXTURE AT THE TIME OF THE POUR. SPECIAL CONSIDERATION SHOULD BE MADE TO THE JOINING OF THE EXISTING FLOOR AND THE NEW SECTION BEING ADDED. CHECK WITH BUILDING ARCHITECT. THE SUGGESTED SIZE OF THE NEW CONCRETE SLAB SECTION IS SHOWN IN THE NEW SLAB RECOMMENDATIONS SECTION.

CAUTION

THE EQUIPMENT DESCRIBED IN THIS MANUAL COULD BE POTENTIALLY DANGEROUS IF IMPROPERLY OR CARELESSLY OPERATED. FOR THE PROTECTION OF ALL PERSONS AND EQUIPMENT, ONLY COMPETENTLY TRAINED OPERATORS WHO ARE CRITICALLY AWARE OF THE PROPER OPERATING PROCEDURES, POTENTIAL DANGERS, AND SPECIFIC APPLICATION OF THIS EQUIPMENT SHOULD BE ALLOWED TO TOUCH THE CONTROLS AT ANY TIME.

SAFE OPERATION OF THIS EQUIPMENT IS DEPENDENT ON USE, IN COMPLIANCE WITH THE OPERATION PROCEDURES OUTLINED IN THIS MANUAL ALONG WITH THE MAINTENANCE AND INSPECTION PROCEDURES WITH CONSIDERATION OF PREVAILING CONDITIONS.

THE EQUIPMENT DESCRIBED IN THIS MANUAL IS NEITHER DESIGNED NOR INTENDED FOR ANY APPLICATION ALONE OR IN CONJUNCTION WITH ANY OTHER EQUIPMENT THAT INVOLVES THE LIFTING OR MOVING OF PERSONS.

ALWAYS CONSULT THE VEHICLE LIFTING GUIDE FOR THE PROPER LIFTING POINTS ON ANY VEHICLE. THESE GUIDES ARE AVAILABLE FROM THE VEHICLE MANUFACTURERS.

AFTER LIFTING THE VEHICLE TO THE DESIRED HEIGHT, ALWAYS LOWER THE UNIT ONTO THE MECHANICAL SAFETIES. THE FORMING OF GOOD OPERATIONAL WORK HABITS WILL ELIMINATE OVERSIGHTS IN THE USE OF PROVIDED SAFETY DEVICES.

PARALLELOGRAM SPECIFICATIONS

MODEL SPECIFIC SPECIFICATIONS

Model Name	Capacity (x 1000) (lbs)	Track Length (ft)	Working Pressure (psi)	Relief Pressure (psi)
36-28-S / 36-28-F	36	28	2150	2450
38-26-S / 38-26-F	38	26	2200	2500
40-28-S / 40-28-F	40	28	2350	2650
40-35-S / 40-35-F	40	35	1800	2650
45-35-S / 45-35-F	45	35	1950	2200
50-26-S / 50-26-F	50	26	2850	3100
50-32-S / 50-32-F	50	32	2100	2400
50-35-S / 50-35-F	50	35	2150	2450
50-42-S / 50-42-F	50	42	1750	2000
50-48-S / 50-48-F	50	48	1800	2050
75-26-S / 75-26-S	75	26	2850	3200
75-30-S / 75-30-F	75	30	2875	3200
75-35-S / 75-35-F	75	35	2900	3200
75-42-S / 75-42-F	75	42	2150	2500
75-48-S / 75-48-F	75	48	2200	2500
100-42-S / 100-42-F	100	42	2850	3100
100-48-S / 100-48-F	100	48	2875	3100

DIMENSIONAL SPECIFICATIONS

LIFT TYPE / PARALLELOGRAM	ELECTRIC / HYDRAULIC
LIFTING SPEED APPROX.	90 SEC APPROX FOR 4 LEG MODELS 120 SEC APPROX FOR 6 LEG MODELS 150 SEC APPROX FOR 8 LEG MODELS
LIFTING HEIGHT (TOP OF DECK TO FLOOR SURFACE)	63 INCH
OVERALL WIDTH	109 INCH STANDARD
WIDTH BETWEEN PLATFORMS	45 INCH STANDARD
PLATFORM HEIGHT (FULLY LOWERED)	13 INCH (SURFACE) 16 INCH (FLUSH)
SHIPPING WEIGHT	17000 LBS. PACKED APPROX (Depends on Model)

POWER UNIT SPECIFICATIONS

MANUFACTURER	FPS
MODEL	M-12193A
POWER UNIT TYPE	VERTICAL (T-STYLE)
MOTOR VOLTAGE	208-230 / 460 VAC
FLA @ RATED CAPACITY	60 / 30 AMPS
MOTOR HORSEPOWER	20 HP
MOTOR PHASE	THREE
MOTOR FREQUENCY	60 HZ
MOTOR SPEED	1800 RPM
PUMP FLOW	10.2 @ 1800 RPM
RELIEF VALVE SETTING	DEPENDANT ON LIFT MODEL
WORKING PRESSURE	DEPENDANT ON LIFT MODEL
RESERVOIR CAPACITY	30 GALLONS
HYDRAULIC FLUID MEDIUM	DEXRON III ATF

SUGGESTED SITE SELECTION / BAY SIZE

WIDTH	DEPTH	HEIGHT
17 FT	40 FT (Dependent on model length)	20 FT MIN

NOTE

THE PLACEMENT OF THE UNIT IS DETERMINED BY THE TYPE (LENGTH, WIDTH, HEIGHT) OF VEHICLE BEING SERVICED AS WELL AS THE CLEARANCES DESIRED AROUND THE LIFT AND THE VEHICLES BEING SERVICED.

WEJ-IT ANCHOR SPECIFICATIONS

LENGTH	DRILL DEPTH	DRILL SIZE	DRILL SIZE MIN.	DRILL SIZE MAX.	TORQUE (N/A)
6 INCH	6 INCH MIN *	3/4 INCH	.775 INCH	.787 INCH	3-5 TURNS PAST HAND TIGHT

PRE-EXISTING FLOOR REQUIREMENTS

MINIMUM THICKNESS	MINIMUM COMPRESSIVE STRENGTH	MINIMUM AGING
6 INCH	4000 P.S.I.	28 DAYS

DO NOT INSTALL ANY MOHAWK LIFT ON ANY SURFACE OTHER THAN CONCRETE CONFORMING TO THE MINIMUM COMPRESSIVE STRENGTH, MINIMUM AGING, AND THE MINIMUM THICKNESS STATED ABOVE.

DO NOT INSTALL ANY MOHAWK LIFT ON EXPANSION SEAMS OR ON CRACKED, OR DEFECTIVE CONCRETE.

DO NOT INSTALL ANY MOHAWK LIFT ON SECONDARY FLOOR LEVELS OR ANY SURFACE WITH A BASEMENT BENEATH WITHOUT WRITTEN AUTHORIZATION FROM THE BUILDING ARCHITECT. NEVER HAND MIX YOUR OWN CONCRETE.

IF FOR ANY REASON A NEW CONCRETE SLAB SECTION IS REQUIRED, FOLLOW THE INSTRUCTIONS FOR THE FLOOR MODIFICATION DATA.

FLOOR MODIFICATION DATA
NEW FLOOR SECTION

THICKNESS	SLAB SIZE WIDTH x LENGTH	CUBIC YARDS
12 INCHES	12 FT x (LIFT LENGTH + 12')	VARIABLE

IF, FOR ANY REASON, A NEW CONCRETE SLAB SECTION IS REQUIRED, MINIMUM THICKNESS, COMPRESSIVE STRENGTH, AND PROPER AGING IS MANDATORY.

THE NEW SLAB SECTION MUST BE TOTALLY SURROUNDED BY AN EXISTING CONCRETE FLOOR THAT IS STRUCTURALLY SOUND. CERTIFIED STRENGTH DOCUMENTATION SHOULD BE OBTAINED FROM THE FIRM WHO SUPPLIES THE CONCRETE MIXTURE AT THE TIME OF THE POUR.

NEVER HAND MIX THE CONCRETE.. **REFER TO NEW SLAB RECOMMENDATIONS SECTION.**

PARALLELOGRAM PACKING LIST
*** ALSO SEE PACKING DRAWINGS IN END OF MANUAL ***

ORDER NUMBER	PART NUMBER	PART DESCRIPTION	QTY.
		PLATFORM ASSEMBLY	2
		RAMP WELDMENT	2
		WHEEL STOP WELDMENT	2
		FLIP PLATE	2
		FLIP PLATE SUPPORT	2
		CONTROL CONSOLE	1
		FLOOR SERVICE COVER	2
		FLOOR SERVICE COVER BRACKET	2
		PARTS BOX	1
		PARTS BOX CONTENTS	

RECOMMENDED TOOL LIST

TOOL DESCRIPTION	USED IN
FLOOR LAYOUT	
30 FT TAPE MEASURE	FLOOR LAYOUT / VERIFY LEVEL ASSEMBLY
CHALK LINE	FLOOR LAYOUT
SOAP STONE	FLOOR LAYOUT
4 FT BUBBLE LEVEL	VERIFY LEVEL FLOORING / PREDICT SHIMMING
MOVING AND UNPACKING	
LIFTING DEVICE, 4 TON	LIFTING / MOVING HEAVY ITEMS
WRENCH & SOCKET, 1 1/8 INCH	¾ INCH PACKING BOLTS
CRESCENT WRENCH, 1 1/8 INCH	¾ INCH PACKING BOLTS
TIN SNIPS	PACKAGING BANDING
PLATFORM SETUP & DRILLING	
LIFTING DEVICE, 4 TON	LIFTING / MOVING HEAVY ITEMS
LEAD CORD OR AIRLINE, 100 FT LG	OPERATE ELECTRICAL/PNEUMATIC TOOLS
PORTA POWER	TO ADJUST ALIGNMENT OF PLATFORMS
PRY BAR	MOVING HEAVY ITEMS
HAMMER DRILL	DRILLING CONCRETE
HAND DRILL FOR 3/4 INCH BIT	DRILLING CONCRETE BEHIND LEGS
DRILL BIT, 3/4 INCH	DRILLING CONCRETE
DRILL BIT, 3/4 INCH, SHORT	DRILLING CONCRETE BEHIND LEGS
DRILL BIT, 3/4 INCH, REBAR CUTTING TYPE	DRILLING CONCRETE AND REBAR
MEDIUM HAMMER	¾ INCH WEJ-IT ANCHORS
WRENCH & SOCKET, 1 1/8 INCH	¾ INCH WEJ-IT ANCHORS
4 FT BUBBLE LEVEL	VERIFY LEVEL ASSEMBLY
ASSEMBLE ATTACHMENTS	
WRENCH & SOCKET, 13/16 INCH	ASSEMBLE STOPS, FLIP PLATES, ETC, 7/16 BOLTS
WRENCH & SOCKET, 3/4 INCH	ASSEMBLE LIGHTS, ETC, 1/2 BOLTS
CONSOLE & UNDERGROUND ROUTING	
FISH WIRE, 30’	FISHING WIRES THRU CONDUIT
MECHANICS WIRE	FISHING WIRES THRU CONDUIT
DUCT TAPE	FISHING WIRES THRU CONDUIT
FLAT HEAD SCREW DRIVER, SMALL	CONNECTING WIRES @ CONSOLE
CUTTING KNIFE	CUTTING AIR LINES
WIRE CRIMPERS	WIRE CRIMPS @ LIFT CONNNECTIONS
WRENCH & SOCKET, 3/8 INCH	REMOVE PANELS FROM CONSOLE, 1/4 BOLTS
TABLE VISE	ASSEMBLY OF RE-USABLE HOSE FITTINGS
LARGE 2’ LONG CRESCENT WRENCH	ASSEMBLY OF RE-USABLE HOSE FITTINGS

BEFORE INSTALLING A LIFT

IMPORTANT

BEFORE INSTALLING A MOHAWK LIFT THERE ARE A FEW ITEMS THAT MUST BE INSPECTED. EACH REPAIR SHOP BAY IS DIFFERENT. IN AN ATTEMPT TO PREVENT OVERSIGHTS, ALL OF THE FOLLOWING INFORMATION IS TO BE VERIFIED AND INVESTIGATED.

OVERHEAD OBSTRUCTIONS

THE AREA WHERE THE LIFT WILL BE LOCATED SHALL BE FREE OF OBSTRUCTIONS. HEATERS, BUILDING SUPPORTS, ELECTRICAL CONDUIT; ALL OF THESE ITEMS ARE TO BE TWENTY (20) FEET ABOVE THE BAY FLOOR.

DEFECTIVE CONCRETE

VISUALLY INSPECT THE BAY FLOOR AREA. THE UNIT CANNOT BE INSTALLED ON EXPANSION SEAMS, OR CONCRETE THAT IS CRACKED. THE UNIT IS ONLY AS STRONG AS THE FLOOR IT IS INSTALLED ON.

FLOOR REQUIREMENTS

THIS INFORMATION IS IN THE GENERAL FLOOR REQUIREMENTS. IF THE BAY FLOOR DOES NOT CONFORM TO THESE SPECIFICATIONS, REFER TO INSTALLATION INSTRUCTIONS.

POWER SUPPLIES

THE STANDARD POWER UNIT IS 220 VAC THREE PHASE. THE USER IS TO SUPPLY CIRCUIT PROTECTION, DISCONNECTING MEANS AND LOCKOUT TAGOUT FOR INCOMING POWER TO LIFT. REFER TO THE POWER UNIT SPECIFICATIONS SECTION. REQUIREMENTS MAY VARY ON SPECIAL ORDERS.

ALSO, AN AIR SUPPLY OF 60 PSI MINIMUM @ 25 CFM MINIMUM IS ALSO REQUIRED. THE USER IS TO PROVIDE DRYER, MAIN SHUTOFF, FILTER/LUBRICATOR/REGULATOR FOR INCOMING AIR SUPPLY TO LIFT.

THE CONTROL CONSOLE WILL REQUIRE THE ELECTRICAL POWER SUPPLY AND PNEUMATIC AIR SUPPLY FOR THE UNIT. NOTE THE LOCATION OF THE POWER SUPPLY.

BAY SIZE

TO OPTIMIZE SHOP SPACE, IT IS ADVISED TO LOCATE A VEHICLE IN THE BAY PRIOR TO LAYOUT. NOTE WALKWAYS, OVERHEAD OBSTRUCTIONS, AND ABILITY TO MOVE EQUIPMENT IN THE BAY AREA.

REQUIREMENTS MAY VARY ON SPECIAL ORDERS.

SPECIFICATIONS

REFERENCE ALL SPECIFICATIONS PRIOR TO INSTALLING A LIFT.

INSTALLATION INSTRUCTIONS

IMPORTANT !!

READ THIS MANUAL IN ITS ENTIRETY. BE FAMILIAR WITH PART NAMES AND HAVE A GOOD UNDERSTANDING OF HOW THIS UNIT IS TO BE ASSEMBLED AND OF HOW INDIVIDUAL PARTS OPERATE, BEFORE ASSEMBLING THE UNIT.
REFER TO ANSI/ALI ALIS, SAFETY REQUIREMENTS FOR INSTALLATION AND SERVICE OF AUTOMOTIVE LIFTS.

REFER TO ATTACHED DRAWING SET FOR FLOOR PREPARATION. VERIFY THAT FLOOR DIMENSIONALLY CONFORMS TO SPECIFICATIONS PRIOR TO BRING LIFT COMPONENTS INTO BAY.

USING A CHALK LINE, LAYOUT THE FLOOR DIMENSIONS WHERE THE UNIT WILL BE LOCATED.

MOVE THE PACKED UNIT NEAR THE SETUP AREA AND COLLECT ALL NEEDED TOOLS (SEE RECOMMENDED TOOL LIST).

PLACE CONSOLE IN VICINITY WHERE IT WILL BE LOCATED.

FISH ALL HYDRAULIC LINES, PNEUMATIC LINES AND ELECTRICAL CABLES AS SHOWN IN DIAGRAM ENCLOSED. DO NOT TRIM ANY EXCESS UNTIL CONNECTIONS ARE READY TO BE MADE.

-- IMPORTANT NOTE ON FORKTRUCKS--

EACH PLATFORM WEIGHTS APPROX 8000 LBS. IT IS HIGHLY RECOMMENDED TO USE A SINGLE 4 TON FORKLIFT TO MOVE THESE. A PAIR OF 2 TON FORKLIFTS CAN PERFORM THE SAME FUNCTION, BUT MANEVERABILITY WILL BE A CHALLENGE AND SHOULD BE EXPECTED. ENSURE THAT THERE IS PROPER CLEARANCE IN THE BAY TO MANEUVER FORKTRUCKS WHERE THEY WILL HAVE TO GO TO POSITION THE PLATFORMS PROPERLY.

CUT THE BANDING AND OPEN THE PARTS. VERIFY PARTS BOX CONTENTS. **REFER TO PARTS PACKING DRAWING SECTION IN THIS MANUAL.** IF MISSING PARTS ARE NOTED, THEY CAN BE OBTAINED BY CALLING 1-800-833-2006 OR BY CONTACTING YOUR LOCAL MOHAWK DISTRIBUTOR.

POSITION THE PLATFORMS ON THE FLOOR. ENSURE THAT THE ENDS HAVING THE CONNECTION LINES ARE AT THE UNDERGROUND CONDUITS. **A SPACING OF 45 INCHES (+1/4 / –0) IS REQUIRED BETWEEN PLATFORMS IN BOTH LOWERED AND RAISED POSITIONS.** POSITIONING IS APPROXIMATE FOR NOW UNTIL THE LIFT IS CONNECTED AND CYLCLED UP AND DOWN.

CONNECT ALL ELECTRICAL, PNEUMATIC AND HYDRAULIC LINES AT BASE OF PLATFORMS.

CONNECT ALL ELECTRICAL, PNEUMATIC AND HYDRAULIC LINES AT CONSOLE. REFER TO DIAGRAMS IN BACK OF MANUAL FOR ELECTRICAL CONNECTIONS INSIDE OF CONSOLE ENCLOSURE.

ENSURE THAT ALL HYDRAULIC AND AIR LINE CONNECTIONS ARE TIGHT TO PREVENT LEAKAGE.

AT THIS TIME HAVE A QUALIFIED ELECTRICIAN CONNECT THE POWER SUPPLY TO THE UNIT

REFER TO ELECTRICAL SCHEMATIC FOR WIRING OF POWER UNIT TO POWER SUPPLY.

VERIFY PROPER MOTOR ROTATION BY JOGGING THE RAISE BOTTON. ENSURE THAT THE MOTOR IS ROTATING CLOCK-WISE AS VIEWED FROM THE TOP OF THE MOTOR. REVERSE INCOMING POWER LEADS IF ROTATION IS REVERSED.

ENSURE THAT THERE IS PROPER AIR SUPPLY TO CONSOLE AIR REGULATOR (SET REGULATOR TO 80 PSI).

REVIEW THE CONTROL INSTRUCTIONS AND OPERATION PROCEDURES TO ACHIEVE A GOOD UNDERSTANDING OF HOW TO OPERATE THE LIFT.

PRESS THE RAISE BUTTON AND THE F4 BUTTON SIMULTANEOUSLY. THE PLATFORMS WILL NOT RAISE IMMEDIATELY UNTIL THE HYDRAULIC LINES FROM THE CONSOLE TO THE LIFT ARE FILLED WITH HYDRAULIC FLUID. ONCE MOTION IN THE PLATFORMS IS SEEN, PRESS THE RAISE BUTTON ONLY. CONTINUE PRESSING THE RAISE BUTTON UNTIL THE PLATFORMS ARE AT FULL HEIGHT.

PRESS THE LOWER BUTTON AND THE PLATFORMS WILL RAISE FOR A FEW SECONDS, RELEASE THE LOCKS, THEN LOWER. IF THEY DO NOT LOWER, VERIFY THE “LOCKS OPEN” REED SWITCHES ARE ADJUSTED PROPERLY. REFER TO FIGURE IN BACK OF MANUAL.

PRESS THE LOWER BUTTON TO LOWER LIFT COMPLETELY. THE CONTROL SCREEN SHOULD READ ZERO HEIGHT FOR BOTH PLATFORMS WHEN LIFT IS FULLY LOWERED. IF THE PLATFORMS ARE STILL READING A VALUE WHEN FULLY LOWERED, THE HOME SWITCHES IN THE PLATFORMS MAY NEED TO BE ADJUSTED. REFER TO FIGURE IN BACK OF MANUAL.

PRESS THE UP BUTTON AND RAISE THE LIFT FULLY. WAIT A FEW MINUTES, THEN PRESS LOWER AND LOWER FULLY. REPEAT THIS A FEW TIMES UNTIL THE PLATFORMS MOVE SMOOTHLY. (THIS WILL BLEED THE AIR FROM THE HYDRAULIC SYSTEM). PLATFORMS SHOULD “ZERO” OUT EVERYTIME THE LIFT IS FULLY LOWERED.

RAISE AGAIN AND WITNESS THAT THE PARK LIGHT ILLUMINATES WHEN THE LOCKS FALL INTO THE LATCHES. RELEASE UP BUTTON WHEN PARK LIGHT ACTIVATES AND PRESS THE PARK BUTTON. HOLD PARK BUTTON UNTIL THE CONTROL SCREEEN READING STOP CHANGING. IF THE PARK LIGHT DOES NOT COME ON, OR IF AN ERROR MESSAGE APPEARS WHEN ATTEMPTING TO PARK THE LIFT, THE “LOCKS CLOSED” REED SWITCHES MAY NEED TO BE ADJUSTED. REFER TO FIGURE IN BACK OF MANUAL.

RAISE THE LIFT A FEW MORE TIMES TO VERIFY THAT IT IS RUNNING SMOOTHLY WITHOUT ERRORS.

PLATFORM SHIMMING

LEVEL THE PLATFORMS BY INSERTING THE SUPPLIED SHIMS UNDER THE BASE FOOTINGS AROUND THE WEJ-IT ANCHORS. THE LIFT MUST BE LEVEL BOTH FRONT TO REAR AND SIDE TO SIDE. A LEVELING DEVICE AND A MEASURING TAPE MUST BE USED. **REFER TO FIGURE IN BACK OF MANUAL.**
ENSURE THAT PLATFORMS ARE SQUARE AND LEVEL AT FULLY RAISED AND FULLY LOWERED POSITION. **A SPACING OF 45 INCHES (+1/4 / –0) IS REQUIRED BETWEEN PLATFORMS IN BOTH LOWERED AND RAISED POSITIONS.** USE HORSESHOE SHAPED SHIMS AS NEEDED TO LEVEL AND SQUARE THE PLATFORMS FIRST, THEN SHIFT PLATFORMS AND SHIM TO OBTAIN THE 45 INCH DIMENSION. **REFER TO PLATFORM SHIMMING DIAGRAM FURTHER ON IN THIS MANUAL.**

SECURE THE PLATFORMS TO THE BAY FLOOR USING THE 3/4 x 6 INCH WEJ-IT ANCHORS. REFER TO THE FOLLOWING: "DRILLING THE MOUNTING HOLES" AND WEJ-IT INSTALLATION DIAGRAMS AND INSTRUCTIONS IN THE END OF THIS MANUAL. OBSERVE TIGHTENING SEQUENCE DEPICTED IN INSTALLATION DRAWINGS (TIGHTEN BOLTS FROM CENTER OF BASE OUTWARD TO ENDS).

-- WARNING --

FAILURE TO FOLLOW THE INSTRUCTIONS FOR DRILLING THE MOUNTING HOLES AND PROPERLY INSTALLING THE WEJ-IT ANCHORS MAY RESULT IN COLLAPSE OF THE LIFT AND/OR FATAL INJURY. THIS LIFT IS ONLY AS STRONG AS THE WEJ-ITS THAT HOLD IT TO THE CONCRETE FLOOR. ENSURE THAT THE WEJ-IT ANCHORS ARE INSTALLED PROPERLY!

-- IMPORTANT – DRILLING THE MOUNTING HOLES

- REFERENCE ALL FIGURES PERTAINING TO DRILLING, WEJ-IT WARNINGS, AND INSTALLATION INSTRUCTIONS.
- WHEN DRILLING THE HOLES, USE A SHARP DRILL BIT (PER ANSI STANDARD) TO PREVENT DRILLING AN UNDERSIZED HOLE. DRILL THE HOLE EQUAL TO THE LENGTH OF THE WEJ-IT ANCHOR. BLOW OUT THE HOLE WITH SHOP AIR, OR VACUUM.
- WHEN INSERTING THE WEJ-IT ANCHORS, INSERT THEM SO THAT THE WASHER RESTS AGAINST THE POST FOOTING. TIGHTEN THE NUT 3 TO 5 FULL TURNS PAST HAND TIGHT.
- NEVER USE AN IMPACT TOOL TO TIGHTEN THE WEJ-IT ANCHORS. USE A WRENCH ONLY.
- MAKE SURE THE CONCRETE IS SOLID WHEN DRILLING. CRACKS AND EXPANSION SEAMS REDUCE THE EFFECTIVENESS OF THE WEJ-IT ANCHOR. NEVER INSTALL THE ANCHOR UNDER THESE CONDITIONS.
- MATCH DRILL SIX 3/4-INCH HOLES THRU THE BASE PLATE OF THE MAIN SIDE POST. INSERT AND TIGHTEN THE WEJ-IT ANCHOR 3-5 FULL TURNS PAST HAND TIGHT.
- INSURE THE INSIDE DIMENSIONS BETWEEN THE MAIN AND OFF SIDE POST IS STILL CORRECT.
- MATCH DRILL SIX 3/4-INCH HOLES THRU THE BASE PLATE OF THE OFF SIDE POST. INSERT AND TIGHTEN THE WEJ-IT ANCHOR 3-5 FULL TURNS PAST HAND TIGHT.

AFTER LIFT IS ANCHORED TO FLOOR, VERIFY SMOOTH OPERATION UP AND DOWN AGAIN.

ASSEMBLY ANY REMOVE COVERS TO LIFT. ATTACH AUTOMATIC WHEEL CHOCKS TO ENDS OF PLATFORMS WITH HARDWARE SUPPLIED.

APPLY SEALING FOAM TO UNDERGROUND CONDUIT CONNECTIONS AT LIFT AND AT CONSOLE

PLACE COVERS OVER FLOOR SERVICES AT END OF PLATFORMS. ANCHOR RAMPS TO FLOOR (FOR SURFACE MOUNT LIFT ONLY).

ATTACH ALL COVERS TO CONSOLE.

HOW THIS LIFT OPERATES:

THIS LIFT HAS BASICALLY **THREE MAIN FUNCTIONS**. THE TASKS OF EACH OF THESE FUNCTIONS IS DESCRIBED BELOW:

- **RAISE PLATFORMS** – RAISES BOTH PLATFORMS SYNCHRONOUSLY WHILE BUTTON IS PRESSED.
- **LOWER PLATFORMS** – RAISES BOTH PLATFORMS FOR A FEW SECONDS, RELEASES ALL MECHANICAL LOCKS, THEN CONTINUES TO LOWER BOTH PLATFORMS SYNCHRONOUSLY WHILE BUTTON IF PRESSED.
- **PARK PLATFORMS** – LOWERS BOTH PLATFORMS ONTO MECHANICAL LOCKS. THIS FUNCTION ONLY OPERABLE WHEN THE BUTTON IS ILLUMINATED.

EACH OPERATION REQUIRES THE LIFT UNIT TO DETECT AND ENSURE CERTAIN **CONDITIONS** ARE MET IN ORDER TO OPERATE. UNDERSTANDING HOW THESE CONDITIONS EFFECT THE PERFORMANCE (OR LACK OF PERFORMANCE) OF THIS LIFT WILL GREATLY BENEFIT THE USER IN PROPERLY OPERATING AND TROUBLESHOOTING THIS LIFT. THESE CONDITIONS ARE AS FOLLOWS:

- ***ADEQUATE AIR SUPPLY:*** A MINIMUM OF 60 PSI AIR IS REQUIRED TO ACTIVATE THE LOCK RELEASES ON THIS LIFT. IF PRESSURIZED AIR IS NOT SUPPLIED, CONTROL DISPLAY SCREEN WILL GIVE AN ERROR MESSAGE AND WILL NOT ALLOW ANY MAIN FUNCTIONS TO OPERATE UNTIL THIS IS CORRECTED.

- ***ENCODER PRESENCE:*** EACH PLATFORM HAS A ROTARY ENCODER THAT PERFORMS COUNTS AS THE LIFT IS RAISED AND LOWERED. THESE ARE THE HEART OF THE SYNCHRONIZATION OF THIS LIFT. IF READINGS ARE NOT RECEIVED FROM THE LIFT TO THE CONTROL CONSOLE FROM THESE ENCODERS, THE CONTROL DISPLAY SCREEN WILL GIVE AN ERROR MESSAGE AND WILL NOT ALLOW ANY MAIN FUNCTIONS TO OPERATE UNTIL THIS IS CORRECTED.

- ***SYNCHRONOUS LIMITS:*** WHILE RECEIVING ENCODERS COUNTS FROM EACH PLATFORM, THE CONTROLS ALSO VERIFY THAT THESE COUNTS ARE WITHIN A CERTAIN DEGREE OF TOLERANCE TO MAINTAIN LEVEL AND SYNCHRONOUS LIFTING. IF THE COUNTS ARE NOT MAINTAINED WITHIN A DIFFERENTIAL VALUE OF ~100, THEN THE CONTROL DISPLAY SCREEN WILL GIVE AN ERROR MESSAGE AND WILL NOT ALLOW ANY MAIN FUNCTIONS TO OPERATE UNTIL THIS IS CORRECTED.

- ***LOCKS RELEASED:*** ON EACH LOCK RELEASE AIR CYLINDER, THERE IS A REED SWITCH THAT DETECTS WHEN THE LOCK IS FULLY RELEASED. ALL THESE LOCK RELEASE REED SWITCHES MUST BE ACTIVATED IN ORDER FOR THE LIFT TO LOWER, OTHERWISE ANY LOWERING OPERATION WILL HALT.

- ***LOCKS ENGAGED:*** ON EACH LOCK RELEASE AIR CYLINDER, THERE IS A REED SWITCH THAT DETECTS WHEN THE LOCK IS FULLY ENGAGED. ALL THESE LOCK ENGAGE REED SWITCHES MUST BE ACTIVATED IN ORDER FOR THE LIFT PARK LIGHT TO ILLUMINATE AND ALLOW THE LIFT TO BE PARKED ON THE MECHANICAL LOCKS.

- ***HOME POSITION:*** AT THE END OF EACH PLATFORM IS A SWITCH THAT IS ACTIVATED WHEN EACH PLATFORM IS FULLY LOWERED. THESE SWITCHES “ZERO” OUT THE ENCODER COUNTS FOR EACH PLATFORM AND TELL THE SYSTEM THAT THE LIFT IS IN “HOME” POSITION.

- ***CONTROL DISPLAY STATUS:*** THE DISPLAY SHOWS ERROR MESSAGES AND THE STATUS OF THE LIFT. SOME MESSAGES MUST BE CANCELLED IN ORDER FOR THE LIFT TO BE IN OPERATION MODE. ALSO, WHILE LIFTING OR LOWERING, THE “COUNTING” HEIGHT OF THE PLATFORMS CAN BE SEEN. THIS WILL GIVE THE USER A GOOD INDICATION OF HOW SYNCHRONOUS THE PLATFORMS ARE MOVING AND WHEN THE UNIT HAS CEASED MOVEMENT (FOR PARKING).

PARALLELOGRAM CONTROL INSTRUCTIONS:

BELOW IS A QUICK REFERENCE CHART FOR THE CONTROLS ON THE PANEL:

FUNCTION KEYS:

F1: ACTIVATE AUXILIARY JACK HEIGHT
(CAN ONLY BE ACTIVATED IN HOME POSITION)
F2: DE-ACTIVATE AUXILIARY JACK STOP HEIGHT
(CAN ONLY BE ACTIVATED IN HOME POSITION)
F4: CLEARS ERROR FAULT AS NEEDED
F8: USER SETTINGS
F9: FACTORY SETTINGS
F10: PASSWORD

OPERATOR PUSH BUTTONS:

RAISE (BLACK):	RAISES LIFT
LOWER (RED):	RAISES LIFT ~2 SECONDS TO CLEAR MECHANICAL LOCKS, THEN LOWERS LIFT
PARK (AMBER):	ONLY FUNCTIONS WHEN ILLUMINATED. LOWERS LIFT ONTO MECHANICAL LOCKS (AFTER ~2 SECOND DELAY)

DISCONNECT SWITCH:

DISCONNECTS POWER TO LIFT CONTROLS.
WARNING: POWER IS STILL “LIVE” TO BOTTOM OF DISCONNECT SWITCH WHEN IT IS OFF. BEFORE SERVICING ANY ELECTRICAL COMPONENTS ON THIS LIFT, MAIN ELECTRICAL FEED TO LIFT MUST BE DISCONNECTED AND LOCKED OUT.

MANUAL OVER-RIDE CONTROLS: (EMERGENCY LOWERING)
(LOCATED WITHIN CONSOLE ENCLOSURE)

HAND PUMP:	USED FOR RAISING LIFT OFF OF LOCKS IN CASE OF ELECTRICAL OUTAGE. MUST BE USED IN CONJUNCTION WITH DIRECTIONAL KNOB.
DIRECTIONAL KNOB (BLK):	DETERMINES WHICH PLATFORM RAISES WITH MANUAL PUMP.
LEFT LOWERING KNOB (RED):	LOWERS LEFT PLATFORM.
RIGHT LOWERING KNOW (RED):	LOWERS RIGHT PLATFORM.

SAFETY TIPS

PLEASE POST THE **AUTOMOTIVE LIFT SAFETY TIPS CARD, (A COPY IS INCLUDED IN THE PARTS BOX)** WHERE THEY WILL BE CONSTANTLY REMINDED TO YOUR LIFT OPERATOR. FOR INFORMATION SPECIFIC TO THE LIFT, ALWAYS REFER TO THE MOHAWK MANUAL.

- INSPECT YOUR LIFT DAILY. NEVER OPERATE IT IF IT MALFUNCTIONS OR IF IT HAS BROKEN OR DAMAGED PARTS. REPAIRS SHOULD BE MADE WITH ORIGINAL MOHAWK PARTS.
- OPERATING CONTROLS ARE DESIGNED TO CLOSE WHEN RELEASED. DO NOT BLOCK OPEN OR OVERRIDE THEM.
- NEVER OVERLOAD YOUR LIFT BEYOND STATED LIFTING CAPACITY. RATED CAPACITY IS SHOWN ON NAMEPLATE AFFIXED TO THE LIFT.
- ONLY TRAINED AND AUTHORIZED PERSONNEL SHOULD DO POSITIONING OF VEHICLE AND OPERATION OF THE LIFT.
- DO NOT ALLOW CUSTOMERS OR BY- STANDERS TO OPERATE THE LIFT OR TO BE IN A LIFTING AREA DURING ITS OPERATION. ONLY PROPERLY TRAINED PERSONNEL SHOULD BE ALLOWED TO OPERATE LIFT.
- NEVER RAISE A VEHICLE WITH PERSONS INSIDE.
- ALWAYS KEEP LIFT AREA FREE OF OBSTRUCTIONS, DEBRIS, GREASE, AND OIL.
- PERFORM THE PRE-OPERATION CHECK LIST, PER INSTRUCTIONS, BEFORE RAISING VEHICLE TO DESIRED HEIGHT.
- BEFORE DRIVING VEHICLE ONTO THE LIFT, ENSURE THAT THE PLATFORMS ARE FULLY LOWERED (ZERO READINGS ON CONTROL DISPLAY FOR RIGHT AND LEFT PLATFORM ELEVATIONS).
- LOAD VEHICLE ON LIFT CAREFULLY. ONCE VEHICLE IS CENTERED ON PLATFORMS, SET THE BRAKES AND POSITION THE WHEEL CHOCKS AROUND THE TIRES. RAISE LIFT TO DESIRED WORKING HEIGHT, THEN PARK LIFT. VEHICLE IS NOW READY TO BE SERVICED.
- NOTE THAT WITH SOME VEHICLES, THE REMOVAL OR INSTALLATION OF COMPONENTS MAY CAUSE A CRITICAL SHIFT IN THE CENTER OF GRAVITY, AND RESULT IN RAISED VEHICLE INSTABILITY. REFER TO THE VEHICLE MANUFACTURER'S SERVICE MANUAL FOR RECOMMENDED PROCEDURES WHEN VEHICLE COMPONENTS ARE REMOVED.
- BEFORE LOWERING LIFT, BE SURE TOOL TRAY'S, STANDS, ETC. ARE REMOVED FROM UNDER VEHICLE.
- BEFORE REMOVING VEHICLE FROM THE LIFT AREA, ENSURE THAT PLATFORMS ARE FULLY LOWERED AND WHEEL CHOCKS ARE REMOVED FROM TIRES.

PRE - OPERATION CHECK LIST

TRAINED OPERATOR

- THE OPERATOR MUST BE FULLY TRAINED AND QUALIFIED TO SAFELY AND EFFECTIVELY OPERATE THIS EQUIPMENT OF THIS SPECIFIC MAKE AND MODEL.

ABSENCE OF OBSTRUCTIONS

- THE TOTAL WORK AREA MUST BE FREE OF ANY AND ALL OBSTRUCTIONS AND BE GENERALLY CLEAN. (FREE OF OIL AND DEBRIS)

VISUAL INSPECTION

- THOROUGHLY INSPECT THE UNIT WITH A TRAINED EYE, NOTING ANY PROBLEM AREAS. INSPECT THE FLOOR AND THE ANCHORING FASTENERS AS WELL. REPORT ANY QUESTIONABLE ITEMS.

NO LOAD PERFORMANCE CHECK

- ALL MECHANICAL SAFETIES OPERATE PROPERLY AND CONSISTENTLY.
- NO EXTERNAL FLUID LEAKS.
- NO BLEED DOWN.
- EFFORTLESS AND SIMULTANEOUS MOVEMENT.
- LEVEL LIFTING.
- CONTROLS FUNCTION PROPERLY.
- ALL SAFETY MECHANISMS FULLY FUNCTIONAL.

PREVIOUS DAY' S OPERATION REPORT

- VERIFY WITH SUPERVISOR THAT THERE WAS NO PROBLEMS EXPERIENCED THE PREVIOUS DAY. IF THERE WERE ANY PROBLEMS, VERIFY THAT ALL NECESSARY REPAIRS HAVE BEEN COMPLETED.

LIFTING PROCEDURES

PRE-OPERATION CHECK

- PERFORM PRE-OPERATION CHECK LIST ITEM BY ITEM.

POSITION VEHICLE

- DRIVE THE VEHICLE ONTO THE LIFT ENSURING IT IS CENTERED LENGTHWISE AND WIDTHWISE ON THE PLATFORMS. **SEE ALI/LP-GUIDE.**

-- WARNING --

FAILURE TO PLACE THE VEHICLE'S CENTER OF GRAVITY OVER THE LIFTS PLATFORM CENTERLINE MAY CAUSE SERIOUS INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- SET BRAKES ON VEHICLE AND POSITION WHEEL CHOCKS AROUND TIRES.

-- WARNING --

DO NOT PLACE WHEELS , WHEEL CHOCKS, OR WING PLOW SHOES ON FLIP PLATES. FLIP PLATES MUST BE FREE TO PIVOT DURING THE WHOLE LIFTING CYCLE. IF THESE PLATES ARE OBSTRUCTED, SERIOUS INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT MAY OCCUR.

TO RAISE

- ENGAGE THE UP-BUTTON ON THE CONTROL PANEL.
- RAISE VEHICLE TO THE DESIRED WORKING HEIGHT.
- LOWER THE UNIT ONTO THE MECHANICAL SAFETIES USING THE PARK BUTTON. (NOTE, THIS BUTTON WILL FUNCTION ONLY WHEN LIT) CONTINUE PRESSING BUTTON UNTIL CONTROL DISPLAY INDICATES ZERO MOVEMENT.

NOTE: IF FOR ANY REASON, THE LIFT BECOMES INOPERATIVE IN THE RAISED POSITION WITH A VEHICLE ON IT, CONTACT YOUR LOCAL MOHAWK REPRESENTATIVE OR THE MOHAWK FACTORY.

TO LOWER

- INSPECT THE LIFTING AREA TO INSURE THAT ALL PERSONNEL AND DEBRIS HAVE BEEN CLEARED FROM THE LIFTING AREA.
- ENGAGE THE DOWN-BUTTON ON THE CONTROL PANEL. (LIFT WILL RAISE APPROXIMATELY 2 SECONDS UNTIL THE LOCKS ARE RELEASED, THEN CONTINUE TO LOWER)
- LOWER UNIT TO THE DESIRED WORKING HEIGHT.
- IF WORK IS COMPLETE, CONTINUE LOWERING THE UNIT UNTIL BOTH PLATFORMS ARE FULLY LOWERED AND THE CONTROL SCREEN READS ZERO FOR BOTH PLATFORM ELEVATIONS.

MAINTENANCE PROCEDURES

QUALIFIED MAINTENANCE PERSONNEL ONLY

DAILY

- PERFORM THE PRE-OPERATION CHECK LIST.
- REPORT ANY AND ALL EQUIPMENT MALFUNCTIONS IMMEDIATELY.
- CLEAN ALL MOVING PARTS. IF OXIDIZATION IS OCCURRING USE A LIGHT LUBRICANT. (WD - 40 OR EQUIVALENT)
- KEEP AREA AROUND THIS EQUIPMENT FREE OF DIRT, SAND, WATER, ETC. ENSURE THAT WATER DRAINS AROUND LIFT ARE NOT CLOGGED.

WEEKLY

- PERFORM THE DAILY OPERATION CHECK LIST.
- WIPE CLEAN, THE CYLINDER RODS TO REMOVE ANY WEEPING OIL AND DUST.
- VERIFY FLUID LEVEL. WITH THE UNIT FULLY LOWERED, THE FLUID LEVEL WILL BE MIDRANGE ON THE FLUID LEVEL GAUGE. USE DEXRON III AS REPLACEMENT FLUID.
- ENSURE FLIP PLATES ROTATE FREELY AND HAVE SMOOTH OPERATION.
  (**DO NOT USE GREASE)**

MONTHLY

- INSPECT ALL HYDRAULIC COMPONENTS FOR LEAKS, DEFORMATION, WEAR OR CORROSION.
- TIGHTEN ALL FASTENERS AND HYDRAULIC FITTINGS AS REQUIRED.
  1. ALL O-RING BOSS (ORB) FITTINGS ARE TO BE TIGHTENED TO: 25-FOOT POUNDS TORQUE MINIMUM FOR #6 ORB AND 45-FOOT POUNDS TORQUE MINIMUM FOR #8 ORB.
  2. ALL PIPE FITTINGS, IF LEAKING IS TO BE REMOVED, RE-SEALED, AND RE - INSTALLED. (SELECT - UNITE THREAD SEALANT OR EQUIVALENT ON FITTING THREADS)
- INSPECT ANCHOR CONDITIONS FOR ANY POSSIBLE CORROSION AND INSPECT THE FLOOR FOR ANY SIGNS OF FATIGUE OR FRACTURES.

SEMI- ANNUAL

- QUALIFY / RE-QUALIFY ALL PERSONNEL IN THE SAFE OPERATION OF THIS UNIT.
- VERIFY ALL FASTENERS TO PROPER TORQUE:
  FLIP PLATE BOLTS TO 70 FT-LB
  PIN RETAINING BOLTS TO 75 FT-LB
  ANCHORS (SEE ANCHOR SPECIFICATION SECTION)
- LUBRICATE ALL PIVOT PINS WITH A LIGHT LUBRICANT (WD-40 OR EQUIVALENT) ENSURING SMOOTH MOTION. DO NOT USE GREASE.

ANNUALLY

- CHECK YOUR HYDRAULIC FLUID ANNUALLY. EVERY FIVE YEARS REPLACE THE HYDRAULIC FLUID. ALWAYS USE A CLEAN FUNNEL AND FILTER. USE DEXRON III HYDRAULIC FLUID.
- INSPECT ALL LOAD PIVOT PINS FOR UNUSUAL OR EXCESSIVE WEAR. (REPLACE IF NEEDED, CONTACT MOHAWK PARTS DEPARTMENT)
- PERFORM THE DAILY, WEEKLY, AND MONTHLY MAINTENANCE PROCEDURES.

MANUAL OVERRIDE CONTROLS

QUALIFIED MAINTENANCE PERSONNEL ONLY

--- WARNING ---

THE MANUAL OVERRIDE CONTROLS ARE SUPPLIED TO THE USER IN THE EVENT OF POWER OUTTAGE OR OUT OF LEVEL CONDITIONS AND ARE NOT MEANT TO BE ROUTINELY USED TO CORRECT LIFT MALFUNCTIONS. IF THE LIFT EXPERIENCES MALFUNCTIONS OR FAULTS, CONTACT MOHAWK RESOURCES SERVICE DEPARTMENT.

WHEN YOU MAY NEED TO USE THESE CONTROLS:

- WHEN THE LIFT GIVES AN OUT OF PARALLEL FAULT AND YOU WISH TO RELEVEL THE PLATFORMS
- DURING A POWER OUTAGE, YOU WILL NEED TO LIFT THE PLATFORMS OFF THE LOCKS AND LOWER THE LIFT TO THE FLOOR.
- ONE PLATFORM DOES NOT OR WAS NOT FULLY LOWERED TO HIT THE HOME SWITCH AND YOU MAY WANT TO LOWER IT MANUALLY TO RESYNCHRONIZE THE PLATFORMS.

WHAT THESE CONTROLS DO:
(LOCATED WITHIN CONSOLE ENCLOSURE. SEE FIGURE ENCLOSED)

HAND PUMP:	USED FOR RAISING LIFT OFF OF LOCKS IN CASE OF ELECTRICAL OUTAGE. MUST BE USED IN CONJUNCTION WITH DIRECTIONAL KNOB.
DIRECTIONAL KNOB (BLK):	DETERMINES WHICH PLATFORM RAISES WITH MANUAL PUMP.
LEFT LOWERING KNOB (RED):	LOWERS LEFT PLATFORM.
RIGHT LOWERING KNOW (RED):	LOWERS RIGHT PLATFORM.

AIR BYPASS PROCEDURE:
(LOCATED WITHIN CONSOLE ENCLOSURE. SEE FIGURE ENCLOSED)

DURING MANUAL DESCENT OF LIFT, YOU MUST OVERRIDE THE LOCKS. TO DO THIS:

- TURN OFF THE AIR REGULATOR
- REMOVE BOTH YELLOW AIR CYLINDER TUBES FROM MANIFOLD BLOCK (SEE FIGURE)
- REMOVE SHORT JUMPER TUBE FROM RIGHT HAND SIDE OF REGULATOR BLOCK (SEE FIGURE)
- REPOSITION AIR CYLINDER TUBES TO RIGHT HAND SIDE OF REGULATOR BLOCK
- TURN ON THE AIR REGULATOR (LOCKS SHOULD DISENGAGE NOW IF LIFT RAISED HIGH ENOUGH ABOVE LOCK POSITION)
- WHEN COMPLETE WITH MANUAL ADJUSTMENTS, RETURN ALL TUBES TO THEIR NORMAL POSITIONS.

TROUBLE SHOOTING

WARNING!

NEVER ATTEMPT TO LOOSEN HYDRAULIC FITTINGS, OR OVERRIDE SAFETY DEVICES IN AN ATTEMPT TO CORRECT A PROBLEM. ALL TESTS ARE TO BE PERFORMED WITH **NO** VEHICLE.

POSSIBLE CAUSE	SOLUTION
NOT RAISING	
NO AIR TO LOCKS	ENSURE THAT SUFFICIENT PNEUMATIC PRESSURE (60 PSI) IS PROVIDED TO CONSOLE. CONNECTION IS AT REGULATOR WITHIN CONSOLE.
UNIT OVERLOADED	REFER TO LIFT SPECIFICATIONS AND CHECK WEIGHT OF VEHICLE TO ENSURE THAT IT IS NOT OVERLOADING THE RATING OF THE LIFT UNIT.
PRESSURE RELIEF CONTAMINATION	REFER TO POWER UNIT SPECIFICATIONS. RELIEF VALVE MAY NEED TO BE ADJUSTED TO PROPER PRESSURE.. REMOVE AND CLEAN DEBRIS FROM VALVE ASSEMBLY IF NECESSARY.
INCORRRECT VOLTAGE TO POWER UNIT.	REFER TO POWER UNIT SPECIFICATIONS. CONSULT AN ELECTRICIAN
REVERSE ROTATION ON MOTOR	SWAP INCOMING POWER FEEDS TO LIFT. MOTOR SHOULD ROTATE CLOCKWISE AS VIEWED FROM TOP OF MOTOR.
PLATFORMS OUT OF SYNCHRONIZATION	MANUALLY LOWER PLATFORMS UNTIL THEY ARE LEVELED AND RAISE AGAIN. PLATFORMS MUST BE WITHIN 100 COUNTS TO BE SYCHRONIZED.
NOT LOWERING	
LIFT STOPPING TO REMIND YOU TO MOVE JACK TO END OF PLATFORM	ENSURE THAT JACK IS AT END OF PLATFORM WHERE POCKET IN FLOOR IS LOCATED (NOT APPLICABLE TO SURFACE). PRESS LOWER BUTTON AGAIN.
NO AIR TO LOCKS	ENSURE THAT SUFFICIENT PNEUMATIC PRESSURE (60 PSI) IS PROVIDED TO CONSOLE. CONNECTION IS AT REGULATOR WITHIN CONSOLE.
PNEUMATIC AIR LINE LEAKING	LISTEN FOR AIR LEAK AND REPAIR WHERE NEEDED
MECHANICAL LOCKS NOT DIS-ENGAGED	RAISE UNIT SLIGHTLY AND RE-PRESS THE LOWER BUTTON TO DISENGAGE MECHANICAL LOCKS.
LOSS OF ENCODER SIGNAL	VERIFY THAT BOTH ENCODERS ARE RECEIVING A SIGNAL. WHILE LOOKING AT DISPLAY SCREEN, HAVE SOMEONE STOMP ON BOTH PLATFORMS AND CONFIRM THAT COUNT VALUES ARE CHANGING.
REED SWITCHES ON AIR LOCK CYLINDERS OUT OF POSITION AND NOT DETECTING THAT MECHANICAL LOCKS ARE DISENGAGED PROPERLY	REFER TO DIAGRAM IN BACK OF MANUAL FOR PROPERLY ADJUSTING THE POSTION OF THE “LOCKS OPEN” REED SWITCHES.
PLATFORMS OUT OF SYNCHRONIZATION	RAISE UNIT TO FULL HEIGHT TO EQUALIZE. THEN LOWER OR USE MANUAL LOWERING VALVES TO EQUALIZED, THEN LOWER WITH BUTTON
DEBRIS IN POSTS (TOOLS ETC.)	REMOVE DEBRIS AND CLEAN UNIT
OBSTRUCTION UNDER VEHICLE OR LIFT	REMOVE OBSTRUCTION.
RAISING/LOWERING UNEVEN	
ENCODERS NOT SYNCHRONIZED	LOWER LIFT COMPLETELY AND PRESS BOTH HOME SWITCHES TO ZERO LIFT AT BOTTOM
HOME SWITCHES NOT ADJUSTED PROPERLY	ENSURE THAT WHEN LIFT IS COMPLETELY LOWERED, BOTH HOME SWITCHES ZERO LIFT ON BOTH SIDES.
FAULTY PROPORTIONAL VALVE	REPLACE FAULTY COMPONENT. CONTACT MOHAWK SERVICE DEPARTMENT.

TROUBLE SHOOTING, CONT.

POSSIBLE CAUSE	SOLUTION
NOT PARKING (LIGHT DOES NOT ILLUMINATE)	
FAULTY LIGHT BULB	REMOVE BUTTON CASING AND CHECK BULB TO VERIFY IF IT IS DEFECTIVE. REPLACE WITH 24 VDC BULB.
REED SWITCHES ON AIR LOCK CYLINDERS OUT OF POSITION AND NOT DETECTING THAT MECHANICAL LOCKS ARE ENGAGED PROPERLY.	REFER TO DIAGRAM IN BACK OF MANUAL FOR PROPERLY ADJUSTING THE POSTION OF THE “LOCKS CLOSED” REED SWITCHES.
LIFT NOT IN POSITION WHERE ALL LOCKS ENGAGED.	RAISE LIFT UNTIL “CLUNK” IS HEARD FROM ALL LOCKS. ONCE ALL LOCKS DROP IN TO ENGAGE, LIGHT SHOULD COME ON AND ALLOW PARKING OF THE LIFT.
HYDRAULIC LEAKS	
CYLINDER	THOROUGHLY CLEAN THE CYLINDER. VERIFY LEAK ORIGIN. FITTINGS ARE TO BE TIGHTENED PER SPECIFICATIONS
BAD FLARE OR FITTING	REMOVE THE HYDRAULIC LINE AND INSPECT FLAIR AND FITTING FOR DEFORMATION. REPLACE IF NEEDED.
BAD O-RING (O-RING TYPE FITTINGS)	CHANGE O-RING
LOOSE PIPE FITTING	REMOVE, RESEAL, AND RE-INSTALL FITTING. SEAL ALL PIPE FITTING CONNECTIONS WITH THREAD SEALANT MOHAWK PART # 601-610-002 NOTE**: DO NOT USE TEFLON TAPE.**

TROUBLE SHOOTING, CONT.

CONTROL DISPLAY ERROR MESSAGES

MESSAGE:	POSSIBLE RESOLUTION:
LOCK LIFT NOT ALLOW – LOCKS NOT CLOSED	1. LIFT IS NOT ALLOWED TO PARK ON LOCKS UNLESS COMPUTER DETECTS THAT ALL LOCKS ARE CLOSED. IF ANY SINGLE LOCK IS NOT CLOSED, THIS ERROR WILL OCCUR. TRY RAISING AND PARKING AGAIN. 2. IF ERROR RECURS, ADJUSTMENT TO “LOCKS CLOSED” REED SWITCHES MAY BE NECESSARY (SEE FIGURE IN BACK OF MANUAL). 3. CHECK THAT REED SWITCH CABLE CONNECTIONS ARE SECURE TO TERMINAL STRIP IN ENCODER BOX AND CONTROL PANEL.
F4 – TO RESET FAULT – LOW AIR FAULT	1. AIR SUPPLY TO LIFT IS NOT PRESENT OR TOO LOW OF PRESSURE (NEED 80 PSI MINIMUM). PRESS F4 TO CLEAR MESSAGE WHEN AIR IS OBTAINED. 2. CHECK THAT AIR REGULATOR WITHIN CONSOLE IS SET TO AT LEAST 80 PSI. RESET PRESSURE AND PRESS F4 ON PANEL TO CLEAR MESSAGE. 3. POSSIBLE FAULTY AIR PRESSURE SENSOR MAY NEED REPLACEMENT.
PUMP MOTOR – OVER LOAD	1. DISCONNECT POWER FROM CONTROL CONSOLE. WAIT APPROXIMATELY 5 MINUTES FOR MOTOR OVERLOAD TO RESET. CONNECT POWER AGAIN AND RETRY LIFT. 2. DISCONNECT POWER FROM CONTROL CONSOLE. OPEN ELECTRICAL CONTROL BOX DOOR AND CHECK THAT OVERLOAD SETTING ON MOTOR STARTER IS SET TO MAXIMUM VALUE AND RESET BUTTON IS SET TO AUTO (NOT MANUAL). ENSURE THAT TRIP WINDOW ON OVERLOAD RELAY IS NOT SHOWING A COLORED TRIP STRIP. 3. LIFT IS POSSIBLY OVERLOADED. CHECK CAPACITY.
F4 - TO RESET FAULT – OUT OF PARALLEL	1. THERE MAY HAVE BEEN A TEMPORARY DIFFERENTIAL OF ENCODER READINGS BETWEEN LEFT AND RIGHT SIDE THAT HAS CORRECTED ITSELF. PRESS F4 TO CLEAR ERROR. 2. USE MANUAL CONTROLS TO LEVEL LIFTING PLATFORMS. PRESS F4 TO CLEAR ERROR. 3. SPEED OF LIFT MAY BE TOO FAST FOR CONTROLS TO COMPENSATE FOR OFFSET LOADING ON LIFT. CONTACT MOHAWK RESOURCES FOR RESETTING SPEED SETTING.
F4 - TO RESET FAULT – LEFT/RIGHT STOP BAR TRIP	1. TAPE SWITCH UNDER PLATFORM HAS DETECTED AN OBSTRUCTION AND HAS SHUT DOWN LIFT. REMOVE OBSTRUCTION AND PRESS F4 TO CLEAR MESSAGE. NOTE: THIS MESSAGE ONLY PRESENT WHEN LIFT PROVIDED WITH OPTIONAL TAPESWITCH (NOT STANDARD FEATURE).
F4 – TO RESET FAULT – LOSS OF LEFT/RIGHT ENCODER	1. LIFT HAS EXPERIENCED NO MOTION FOR 2 SECONDS IN A PLATFORM AFTER CONTROLS HAVE BEEN PRESSED. IF LOWERING, POSSIBLE HANG UP ON LOCKS. RAISE AND LOWER AGAIN. IF RAISING, POSSIBLE LOSS OF POWER TO MOTOR. CHECK MOTOR OVERLOAD. 2.. VERIFY THAT CONTROLS ARE RECEIVING SIGNAL FROM ENCODER. OBTAIN SCREEN ON CONTROL DISPLAY TO SHOW LIFT ELEVATIONS (LEFT, DIFFERENTIAL, RIGHT). STOMP ON EACH PLATFORM AND ENSURE THAT VALUES ON DISPLAY CHANGE. 3. ENSURE THAT ENCODER CABLE CONNECTIONS ARE SECURE TO TERMINAL STRIP IN ENCODER BOX AND IN CONTROL PANEL. 4. POSSIBLE FAULTY SOLENOID ON MANIFOLD NOT SHIFTING FLOW TO PLATFORM, RESULTING IN NO MOTION FOR 2 SECONDS AFTER CONTROLS PRESSED. CONTACT MOHAWK RESOURCES FOR REPLACEMENT PART. 5. POSSIBLE HYDRAULIC LEAK IN LEFT OR RIGHT PLATFORM HOSE. VERIFY AND TIGHTEN FITTING WHERE NECESSARY. MORE DEXRON III MAY NEED TO BE ADDED TO RESERVOIR IF LEAK FOUND.
F4 – TO RESET FAULT – LOCKS NOT OPEN	1. LIFT IS NOT ALLOWED TO LOWER UNLESS COMPUTER DETECTS THAT ALL LOCKS ARE OPEN. IF ANY SINGLE LOCK IS NOT OPEN, THIS ERROR WILL OCCUR. TRY RAISING AND LOWERING AGAIN. 2. IF ERROR RECURS, ADJUSTMENT TO “LOCKS OPEN” REED SWITCHES MAY BE NECESSARY (SEE FIGURE IN BACK OF MANUAL). 3. CHECK THAT REED SWITCH CABLE CONNECTIONS ARE SECURE TO TERMINAL STRIP IN ENCODER BOX AND CONTROL PANEL.
WARNING: MOVE JACK TO END OF PLATFORM	1. LIFT HAS STOPPED TO REMIND YOU TO MOVE JACK TO END OF PLATFORM WHERE CUTOUT IN FLOOR IS PROVIDED (FLUSH MOUNT LIFT ONLY). PRESS LOWER BUTTON AGAIN TO RESUME MOTION. 2. IF REMINDER NOT NEEDED (SURFACE LIFT), BRING LIFT TO HOME POSITION AND PRESS F2.

MODEL:
SERIAL NUMBER:
DATE OF INSTALLATION:

SERVICE CHART

DATE	PART REPLACED / SERVICED	SERVICE COMPANY	SERVICED BY

MAINTENANCE CHART

DATE	MAINTENANCE PERFORMED	SERVICE COMPANY	SERVICED BY

MOHAWK

PARALLELOGRAM

FIGURES & DIAGRAMS

MOHAWK RESOURCES LTD.

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TOLL FREE: 1-800-833-2006
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FAX: 1-518-842-1289
INTERNET: WWW.MOHAWKLIFTS.COM
E-MAIL: SERVICE@MOHAWKLIFTS.COM

WEJ-IT INSTALLATION

DO NOT USE IMPACT WRENCH

USE HAND WRENCH ONLY

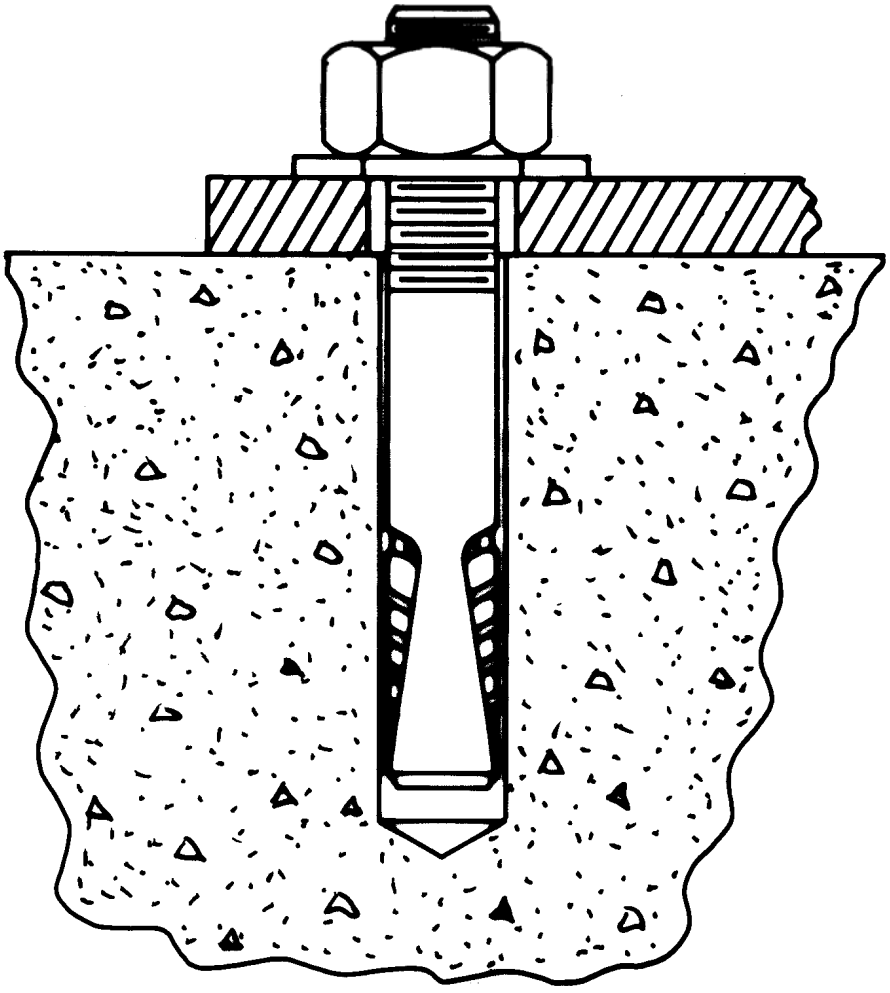
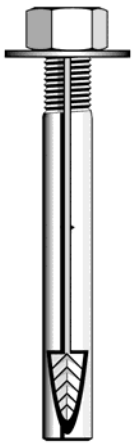


Figure 1



The Original wej-it® Wedge Anchors

Key Features/Benefits

- **Time-Tested, Pr ven Reliability.** An industry standard for over 45 years.
- **Fully Assembled and Ready to Use.** Unparalleled job-site convenience.
- **BOLT SIZE IS HOLE SIZE.®** Allows precision placement of equipment through pre-drilled holes.
- **Exclusive "Positive Wedge Connections."** Minimizes wedge loosening due to vibratory loads.

USA ENGINEERED & MANUFACTURED

Specifications, Approvals and Listings

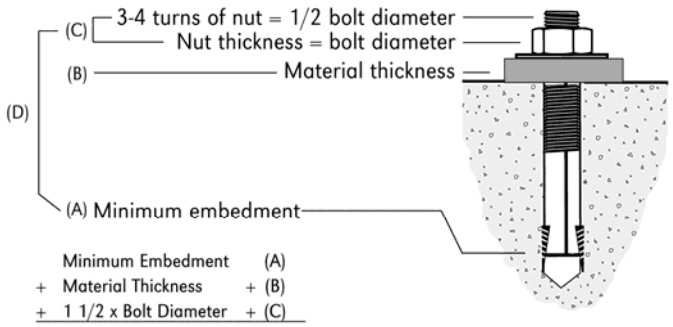
Type	
Zinc Plating	ASTM B-633, Type III, SCI
ICBO-ES	Report #1821
City of Los Angeles	#RR 24939
DOT	Please call Customer Service for specific information by state.
Federal Specifications	QQZ-325C, Type II, Class 3 (Clear Chromate added) FFS-325, Group II, Type 4, Class 1

Maximum Tensile and Shear Capacity for Static Loads

	Limestone Aggregate			Unreinforced Stone Aggregate oncrete Zin Plated arbon Steel							Unreinforced Lightweight (Idealite)		
Anchor & Hole Size	Embed-ment (in)	2000 psi Tension (lbs)	Shear (lbs)	Embed-ment (in)	3000 psi Tension (lbs)	Shear (lbs)	5000 psi Tension (lbs)	Shear (lbs)	7000 psi Tension (lbs)	Shear (lbs)	Embed-ment (in)	5000 psi Tension (lbs)	Shear (lbs)
3/4	•	•	•	3	11579	15537	19299	21000	27019	23103	3 1/2	17293	19050
3/4	•	•	•	7	15444	15537	25740	21000	36036	23103	•	•	•
1	•	•	•	5 1/2	16351	•	27252	33083	38153	35700	4 1/2	21616	31666
1	•	•	•	7	17837	•	29728	33083	41619	35700	•	•	•
Source	1			2							2		

Sources (available upon request): 1) University of Texas, Austin, TX (using new ICBO-ES testing criteria); 1993. 2) AA Engineers & Associates, Inc., Denver, O; 1981.

Length Selection Guide



	Minimum Embedment	(A)
+	Material Thickness	+ (B)
+	1 1/2 x Bolt Diameter	+ (C)
=	Total Anchor Length	= (D)

Edge Distance and Spacing Requirements

Embedment (E) in Anchor Diameters (d)	Spacing	Edge Distance
E < 6d (shallow)	3.50E	1.75E
6d ≤ E ≤ 8d (standard)	2.00E	1.00E
8d < E (deep)	1.50E	0.75E

Notes:

- Information provided only for the use of a qualified design engineer. Use of technical data by persons not qualified could cause serious damage, injury, or even death.
- Ultimate values shown. For static loads, use one-fourth of the maximum tensile and shear capacities for the recommended 4:1 safety factor.

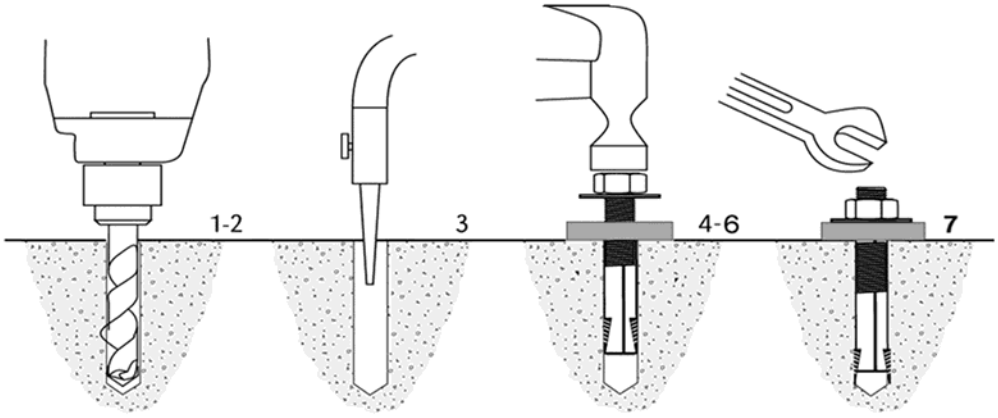
Figure 2

INSTALLATION INSTRUCTIONS – MOHAWK LIFTS

1. Drill the hole perpendicular to the work surface.* The drill bit diameter will be the same as the anchor diameter that you are installing. To assure full holding power, do not ream the hole or allow the drill to wobble. Ensure all holes are a minimum of 6 inches away from any cracks, seams or defects in the concrete.
2. Drill the hole 1 diameter deeper than the intended embedment of the anchor, but not closer than two diameters to the bottom (opposite) surface of the concrete.
3. Clean the hole using compressed air and a nylon brush. A clean hole is necessary for proper performance.
4. For ease of installation, make certain that the spear heads are located up against the wedge pockets.
5. Turn the nut onto the anchor until contact is made with the top of the spears and the bottom of the washer. Insert anchor into hole.
6. Tap anchor into hole with a 2 ½ lb. hammer until the washer rests solidly against the base plate.
7. Tighten the nut from 1 ½ to 3 turns past hand tight position to estimated installation torque below. Use of an Impact wrench for Installation of the anchor is NOT recommended.

TORQUE VALUES

Anchor Diameter (in)	Drill Bit Diameter (in)	Estimated Install Torque (ft-lb)
3/4	3/4	75
1	1	130



INSPECTION & MAINTENANCE INSTRUCTIONS

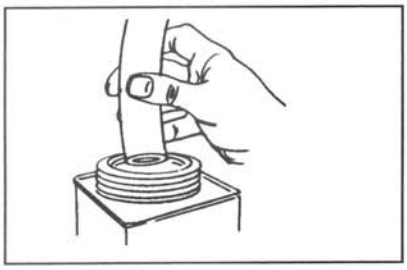
1. Verify torque on anchors to 70 ft-lbs for 3/4 anchors and 120 ft-lbs for 1" anchors for future/annual inspections.

* Always wear safety glasses. Follow the drill manufacturer's safety instructions. Use only solid carbide-tipped drill bits meeting ANSI B212.15 diameter standards as listed on back cover.

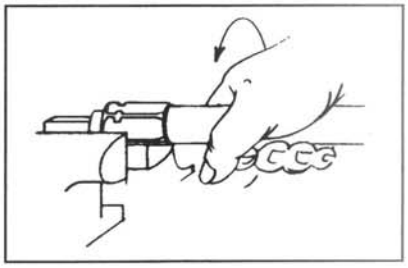
REV: 11/07

Figure 3

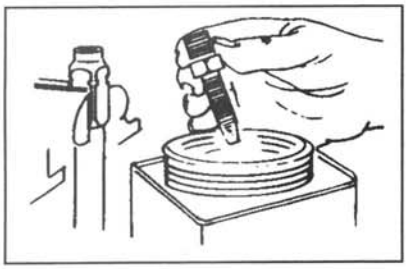
30 Series Hose Assembly Instructions



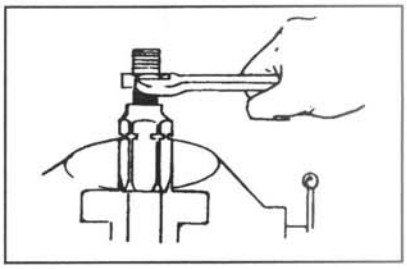
1. Identify Over All Length (OAL) of hose assembly and the Cut Off Allowance (COA) length of fitting(s) on hose ends by use of the fitting data table. Properly measure, mark and cut hose to desired length using fine tooth hacksaw or a cutoff machine. Dip hose end into Hoze-Oil or heavy oil.



2. Place socket in vice and screw in hose counter-clockwise until hose bottoms. Back hose out 1/2 turn.



3. Dip hose end of nipple into Hoze-Oil or other heavy oil up to the hex . When assembling fittings of 316 stainless steel lubricate the threads of both the socket and nipple with Dow Corning Molykote G-n or equivalent metal assembly lubricant.



4. Screw nipple assembly into socket using wrench on nipple hex until nipple hex shoulders against socket.

Note: Disassemble in reverse order.

IF YOU HAVE QUESTIONS CONCERNING THE PRODUCTS OR APPLICATION OF THE PRODUCTS CONTAINED IN THIS CATALOG, PLEASE CALL:
PARKER HOSE PRODUCTS DIVISION - TECHNICAL SERVICES DEPARTMENT
PHONE: 216 / 943-5700
FAX: 216 / 943-3129
www.parkerhose.com

+ Non-Standard

Figure 4

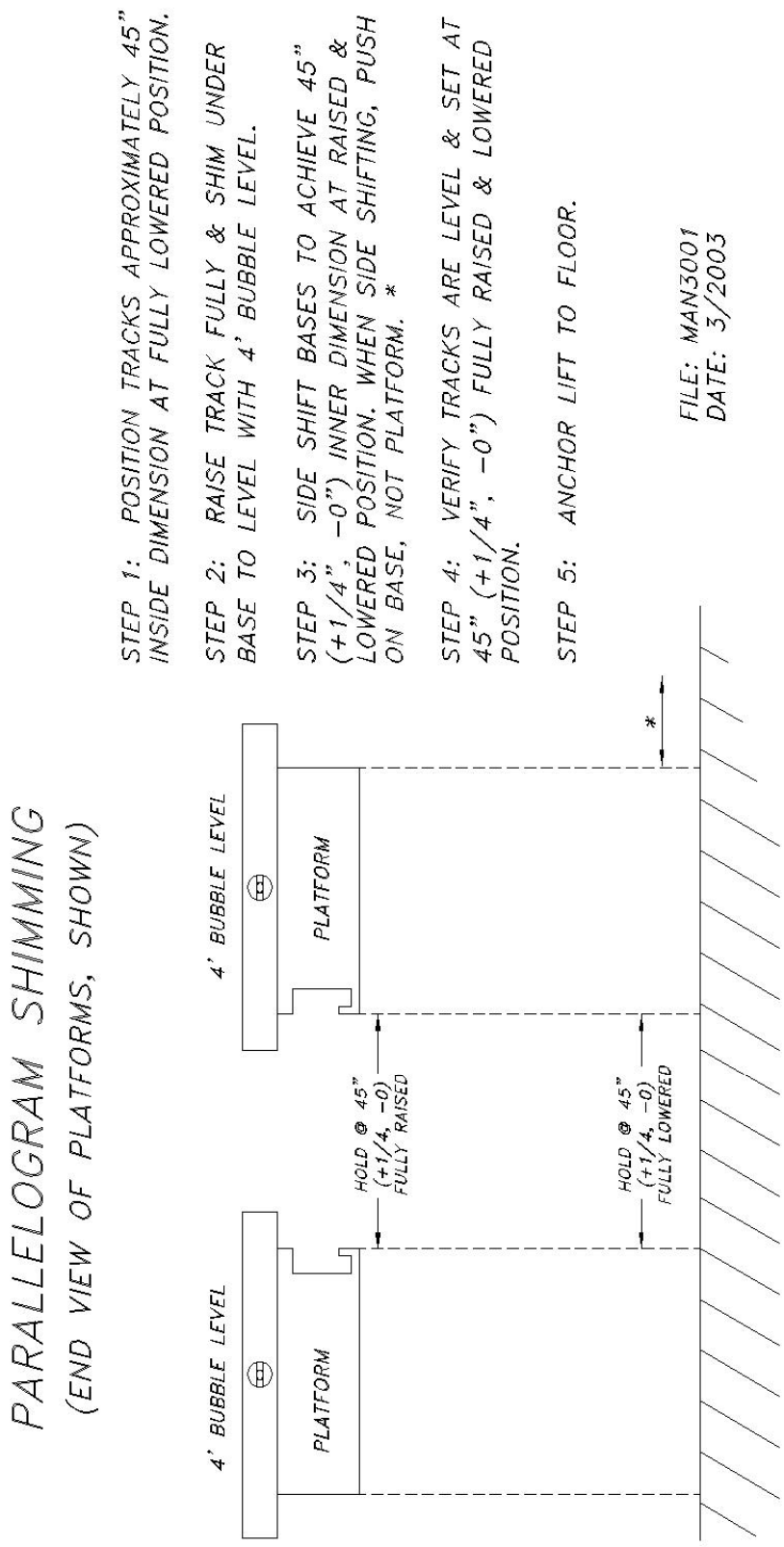

PARALLELOGRAM SHIMMING
(END VIEW OF PLATFORMS, SHOWN)
STEP 1: POSITION TRACKS APPROXIMATELY 45" INSIDE DIMENSION AT FULLY LOWERED POSITION.
STEP 2: RAISE TRACK FULLY & SHIM UNDER BASE TO LEVEL WITH 4' BUBBLE LEVEL.
STEP 3: SIDE SHIFT BASES TO ACHIEVE 45" (+1/4", -0") INNER DIMENSION AT RAISED & LOWERED POSITION. WHEN SIDE SHIFTING, PUSH ON BASE, NOT PLATFORM. *
STEP 4: VERIFY TRACKS ARE LEVEL & SET AT 45" (+1/4", -0") FULLY RAISED & LOWERED POSITION.
STEP 5: ANCHOR LIFT TO FLOOR.
FILE: MAN3001
DATE: 3/2003
4' BUBBLE LEVEL
PLATFORM
4' BUBBLE LEVEL
PLATFORM
HOLD @ 45" (+1/4, -0) FULLY RAISED
HOLD @ 45" (+1/4, -0) FULLY LOWERED
*

Figure 5

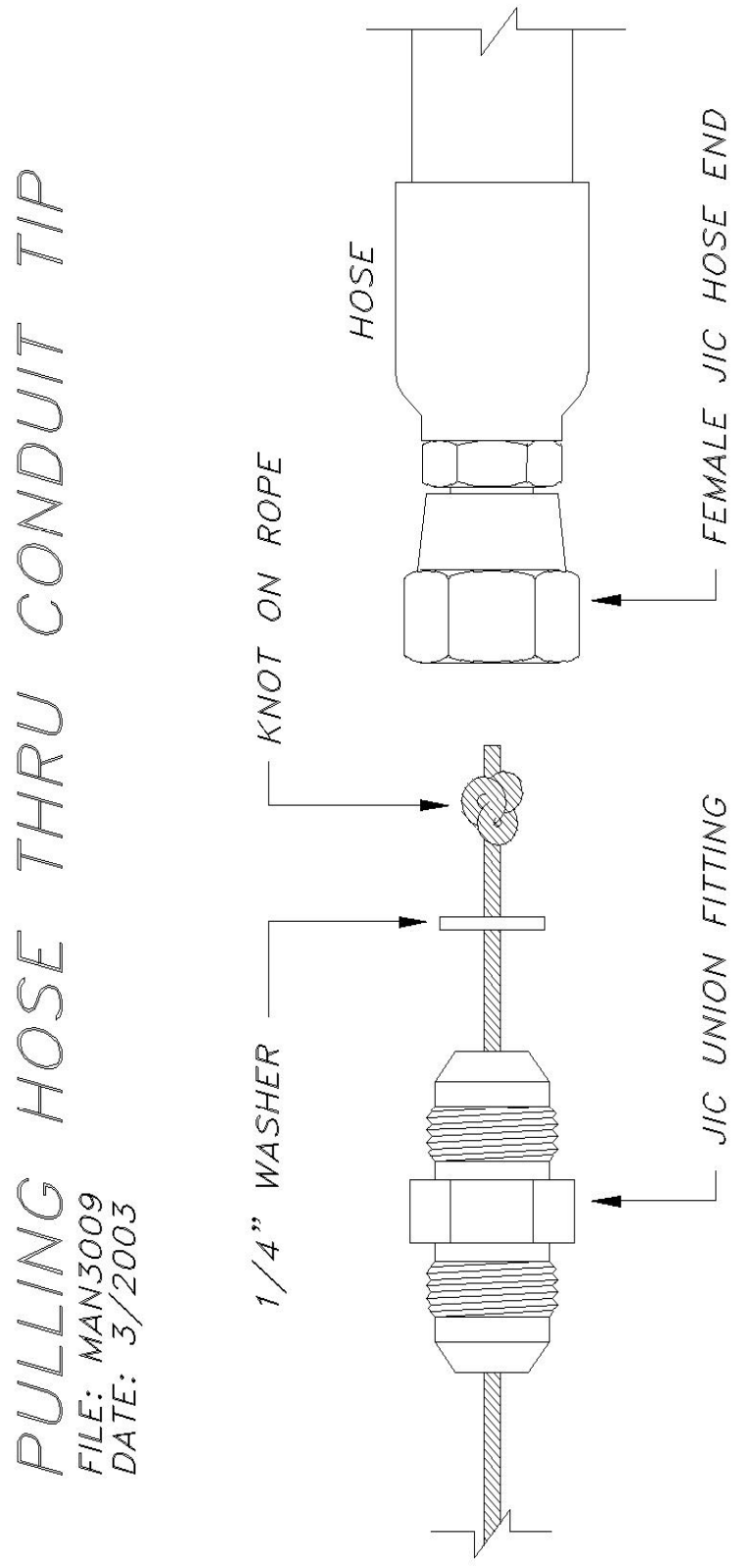

PULLING HOSE THRU CONDUIT TIP
FILE: MAN3009
DATE: 3/2003
HOSE
FEMALE JIC HOSE END
KNOT ON ROPE
1/4" WASHER
JIC UNION FITTING

Figure 6

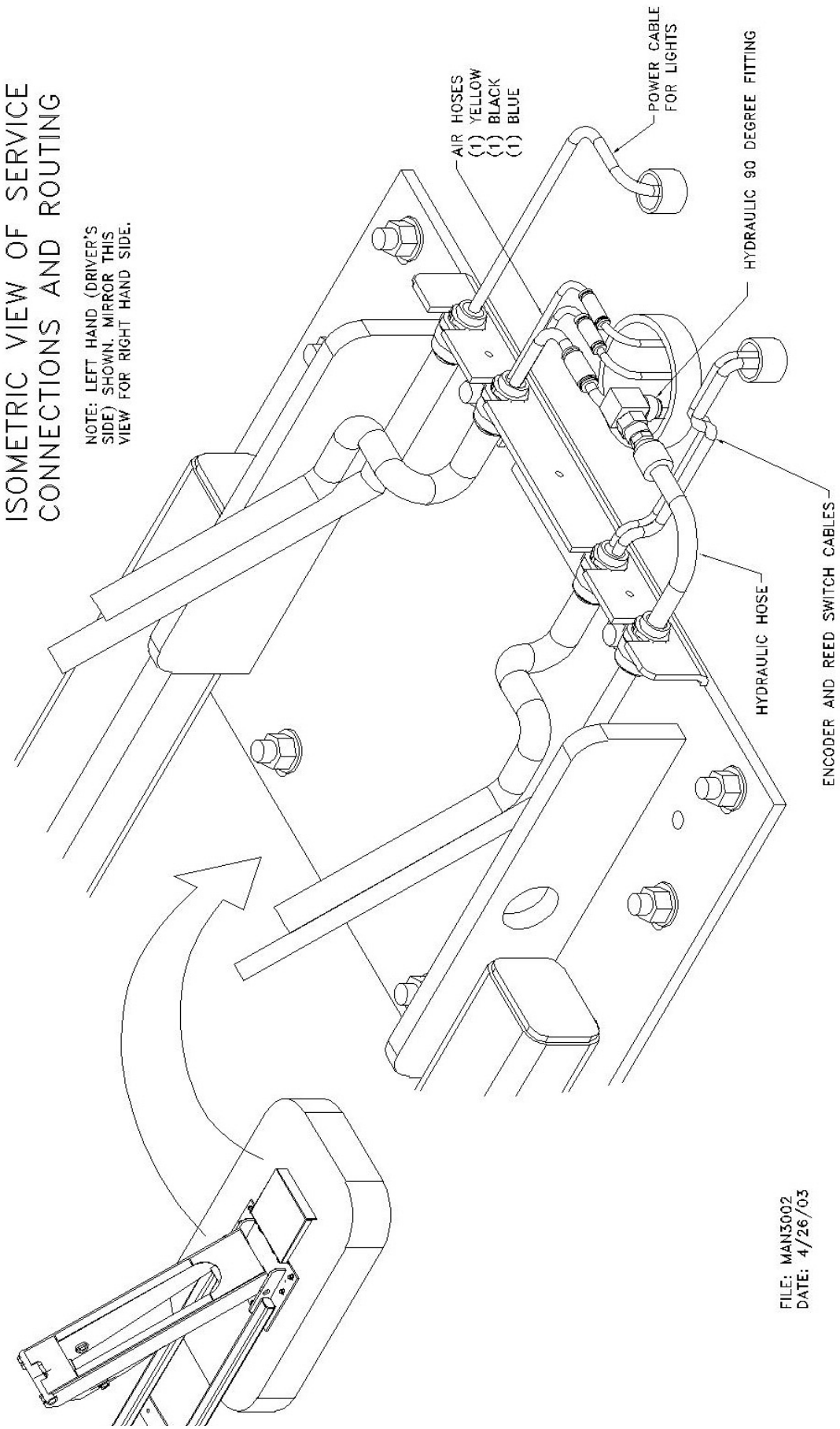

ISOMETRIC VIEW OF SERVICE CONNECTIONS AND ROUTING
NOTE: LEFT HAND (DRIVER'S SIDE) SHOWN. MIRROR THIS VIEW FOR RIGHT HAND SIDE.
AIR HOSES
(1) YELLOW
(1) BLACK
(1) BLUE
POWER CABLE FOR LIGHTS
HYDRAULIC 90 DEGREE FITTING
HYDRAULIC HOSE
ENCODER AND REED SWITCH CABLES
FILE: MAN3002
DATE: 4/26/03

Figure 7

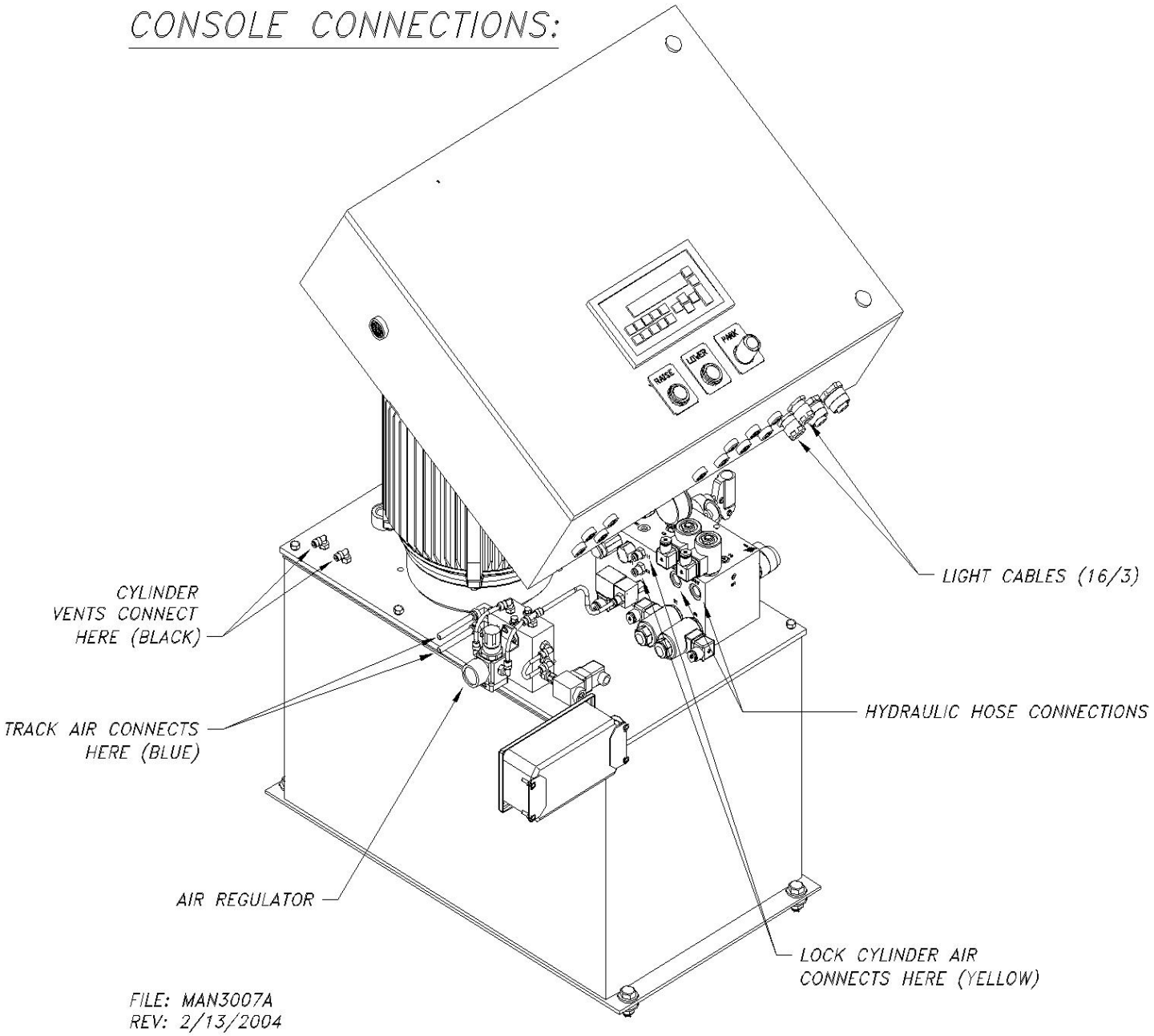

CONSOLE CONNECTIONS:
RANGE
LEVER
PARK
LIGHT CABLES (16/3)
CYLINDER VENTS CONNECT HERE (BLACK)
HYDRAULIC HOSE CONNECTIONS
TRACK AIR CONNECTS HERE (BLUE)
AIR REGULATOR
LOCK CYLINDER AIR CONNECTS HERE (YELLOW)
FILE: MAN3007A
REV: 2/13/2004

Figure 8

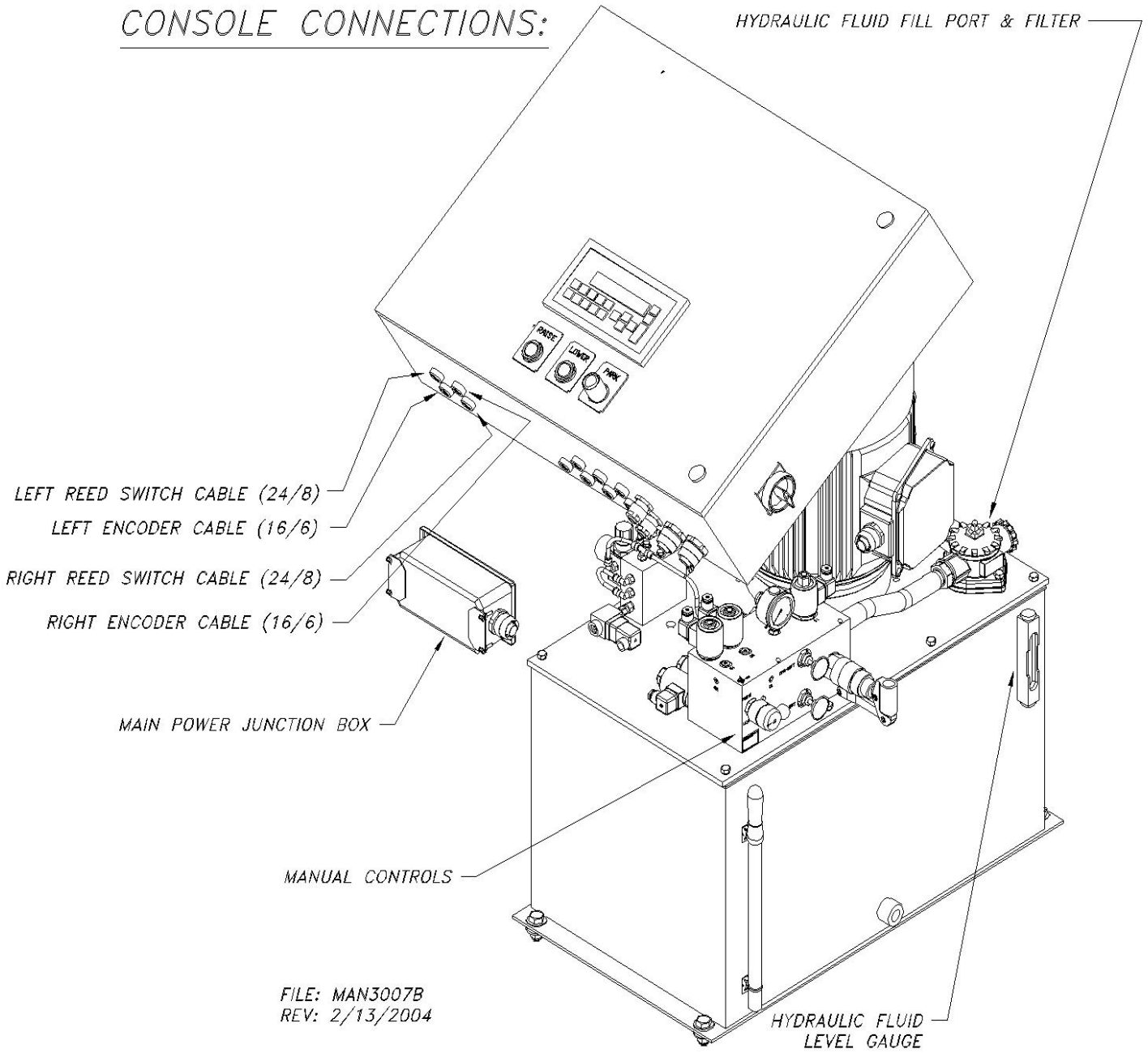

CONSOLE CONNECTIONS:
HYDRAULIC FLUID FILL PORT & FILTER
LEFT REED SWITCH CABLE (24/8)
LEFT ENCODER CABLE (16/6)
RIGHT REED SWITCH CABLE (24/8)
RIGHT ENCODER CABLE (16/6)
MAIN POWER JUNCTION BOX
MANUAL CONTROLS
FILE: MAN3007B
REV: 2/13/2004
HYDRAULIC FLUID
LEVEL GAUGE

Figure 9

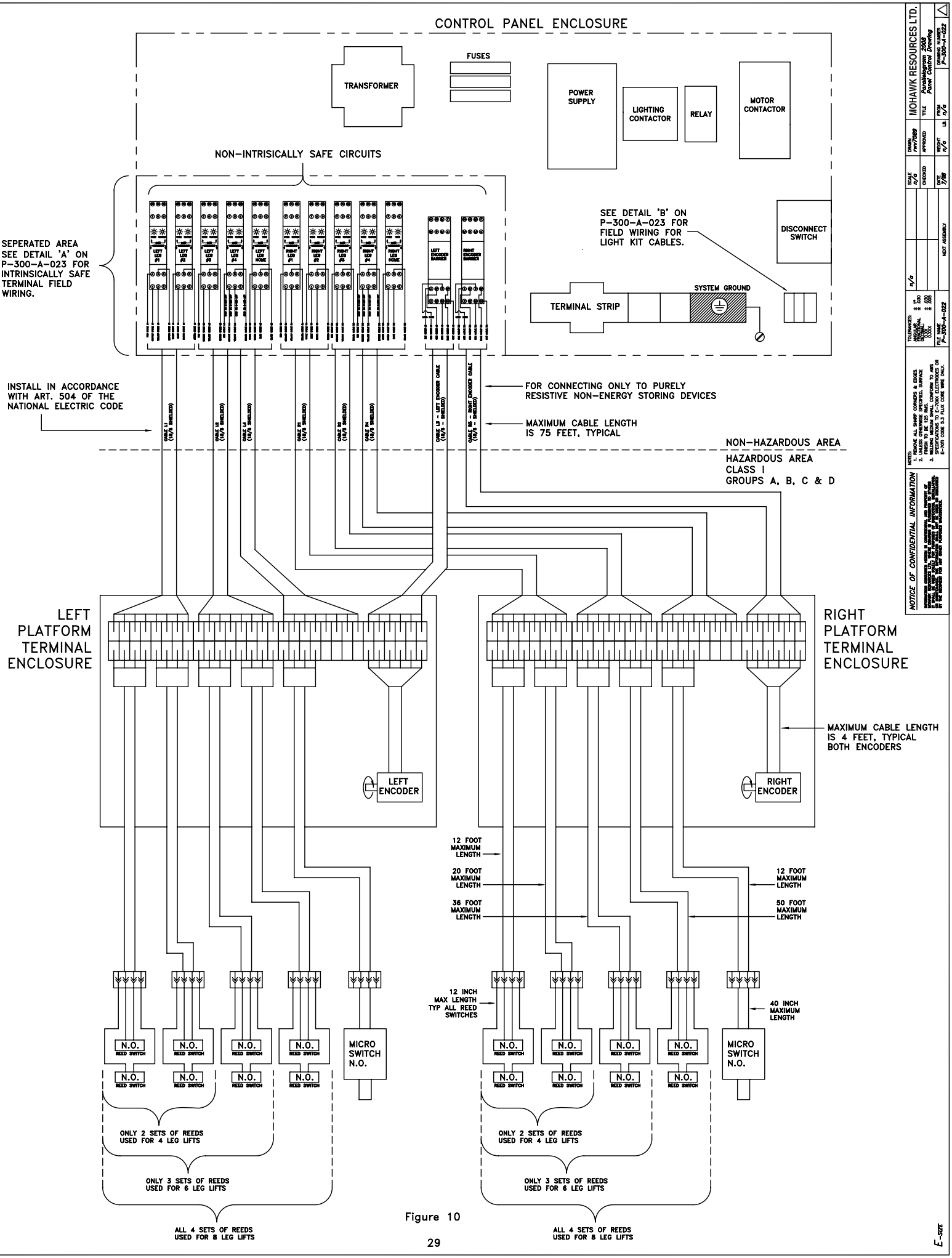

CONTROL PANEL ENCLOSURE
TRANSFORMER
FUSES
POWER SUPPLY
LIGHTING CONTACTOR
RELAY
MOTOR CONTACTOR
NON-INTRISICALLY SAFE CIRCUITS
SEPERATED AREA SEE DETAIL 'A' ON P-300-A-023 FOR INTRINSICALLY SAFE TERMINAL FIELD WIRING.
SEE DETAIL 'B' ON P-300-A-023 FOR FIELD WIRING FOR LIGHT KIT CABLES.
DISCONNECT SWITCH
TERMINAL STRIP
SYSTEM GROUND
INSTALL IN ACCORDANCE WITH ART. 504 OF THE NATIONAL ELECTRIC CODE
FOR CONNECTING ONLY TO PURELY RESISTIVE NON-ENERGY STORING DEVICES
MAXIMUM CABLE LENGTH IS 75 FEET, TYPICAL
NON-HAZARDOUS AREA
HAZARDOUS AREA
CLASS I
GROUPS A, B, C & D
LEFT PLATFORM TERMINAL ENCLOSURE
RIGHT PLATFORM TERMINAL ENCLOSURE
MAXIMUM CABLE LENGTH IS 4 FEET, TYPICAL BOTH ENCODERS
LEFT ENCODER
RIGHT ENCODER
12 FOOT MAXIMUM LENGTH
20 FOOT MAXIMUM LENGTH
36 FOOT MAXIMUM LENGTH
50 FOOT MAXIMUM LENGTH
12 INCH MAX LENGTH TYP ALL REED SWITCHES
40 INCH MAXIMUM LENGTH
N.O. REED SWITCH
MICRO SWITCH N.O.
ONLY 2 SETS OF REEDS USED FOR 4 LEG LIFTS
ONLY 3 SETS OF REEDS USED FOR 6 LEG LIFTS
ALL 4 SETS OF REEDS USED FOR 8 LEG LIFTS

Figure 10

CONTROL ENCLOSURE ELECTRICAL FIELD WIRING CONNECTIONS (FOR 4 LEG LIFTS ONLY)

DETAIL 'A' INTRINSICALLY SAFE TERMINAL FIELD WIRING

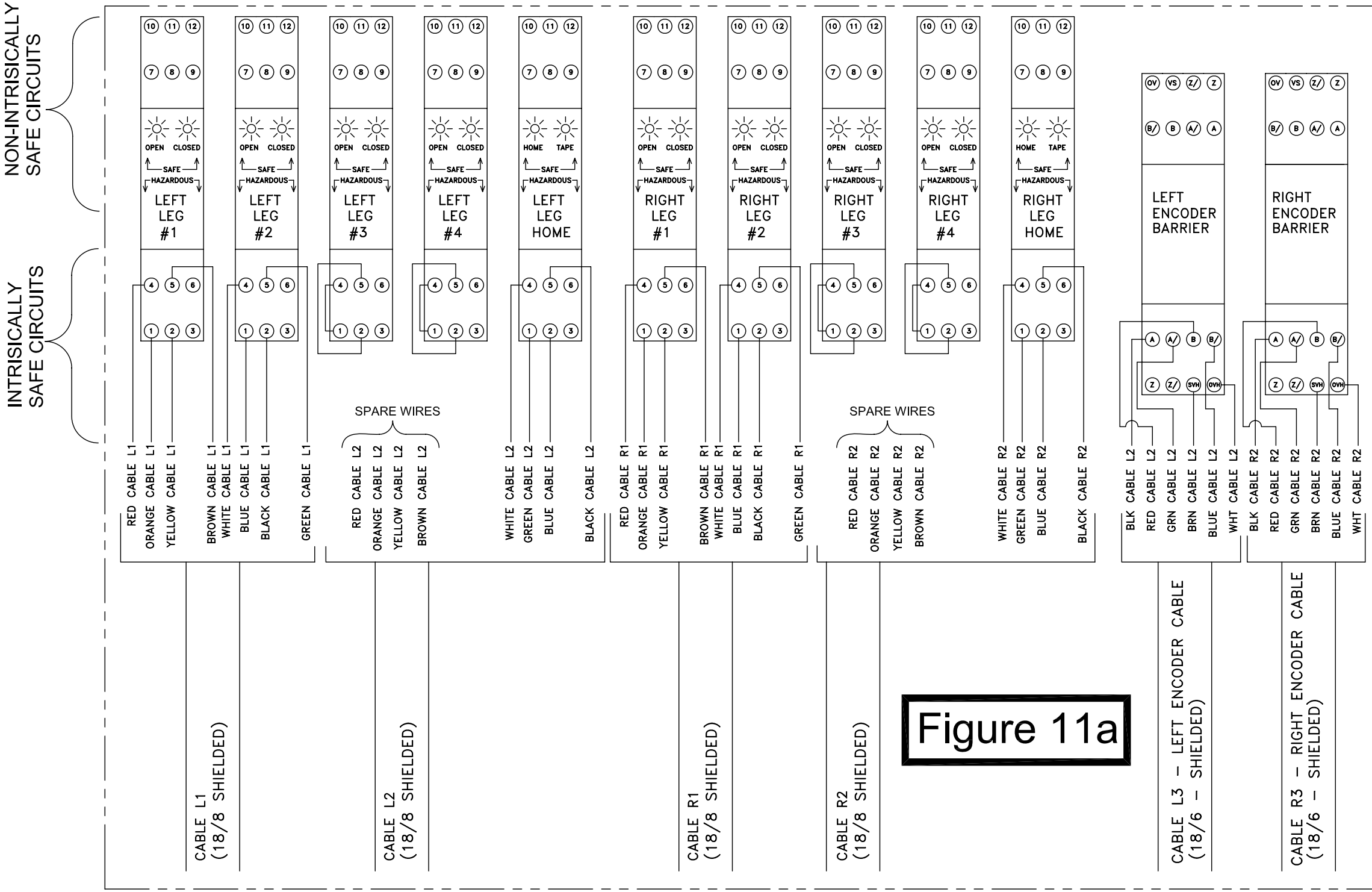
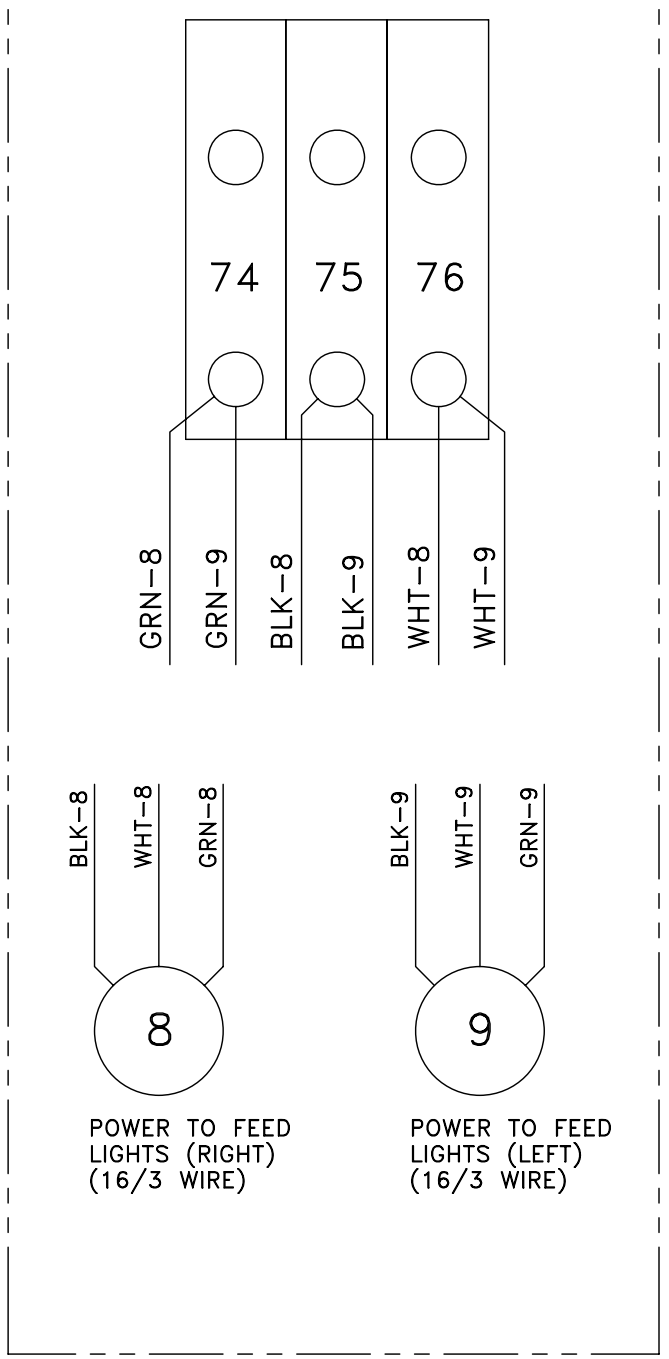


Figure 11a

DETAIL 'B' TRACK LIGHT CABLE WIRING



NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70TI CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1 °
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME *P-300-A-023*

xxx-xxx-xxx
xxx-xxx-xxx
xxx-xxx-xxx
NEXT ASSEMBLY

SCALE *n/a*
DRAWN *rwv7089*
CHECKED
APPROVED
DATE *4/09*
WEIGHT *n/a* LB.

MOHAWK RESOURCES LTD.

TITLE *Parallelogram Field Wiring Details 4 LEG LIFT*

FROM *n/a*
DRAWING NUMBER *P-300-A-023*

CONTROL ENCLOSURE ELECTRICAL FIELD WIRING CONNECTIONS (FOR 6 LEG LIFTS ONLY)

DETAIL 'A' INTRINSICALLY SAFE TERMINAL FIELD WIRING

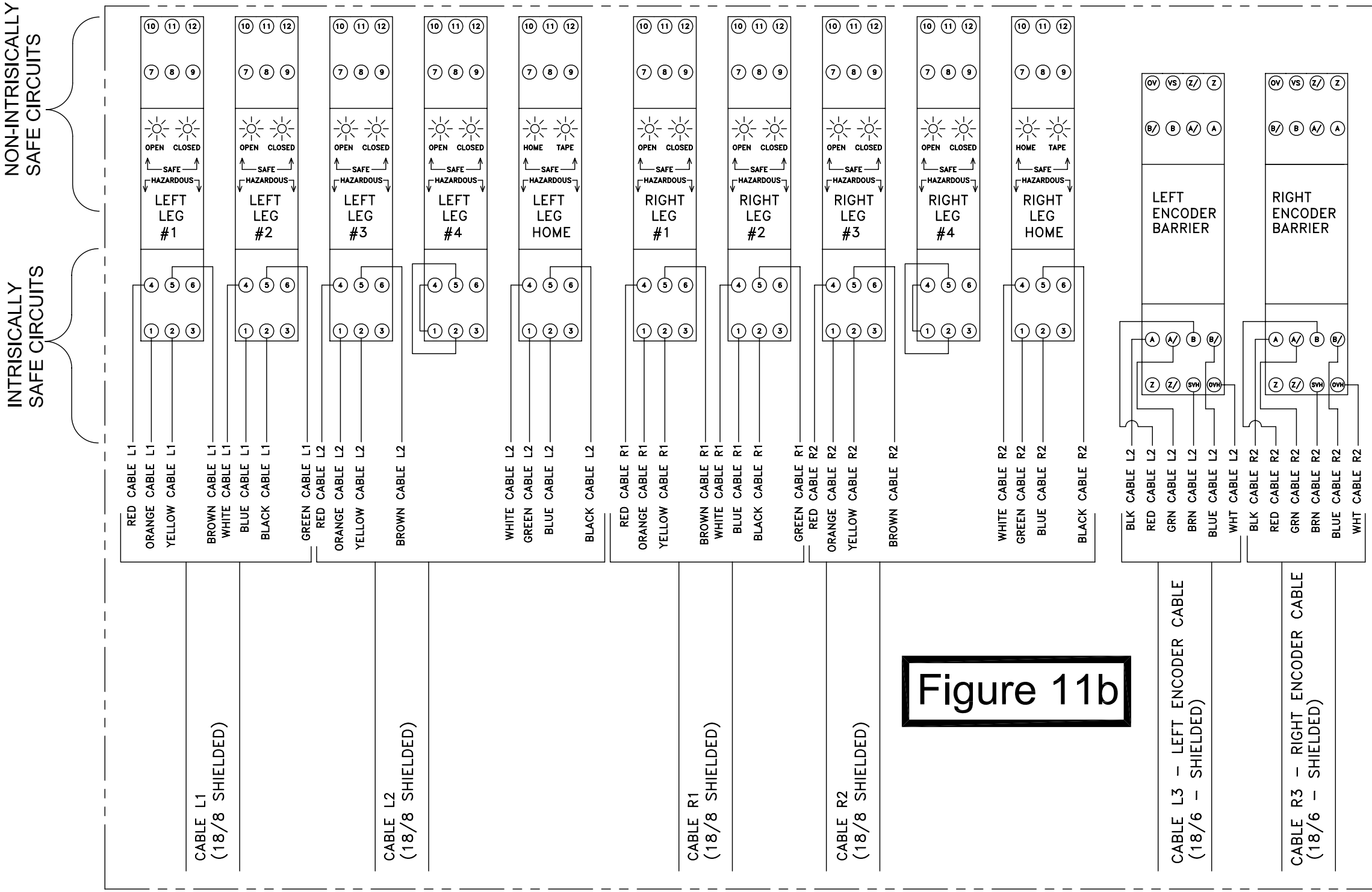
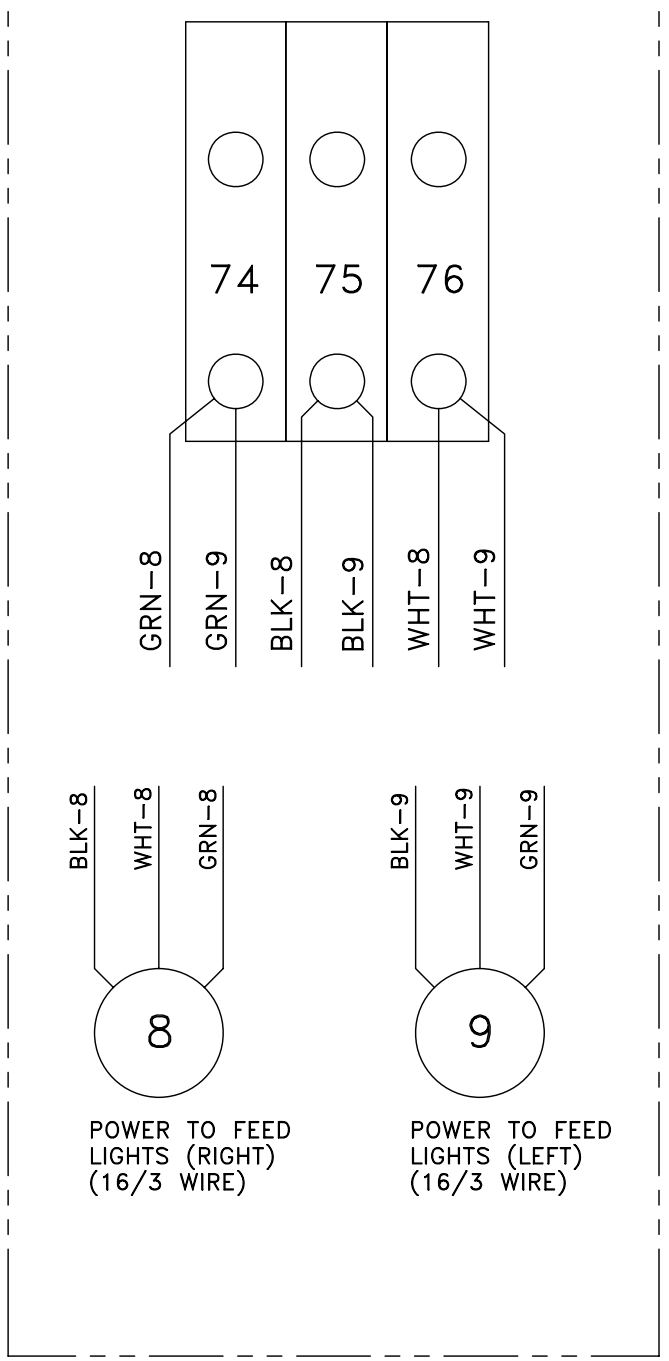


Figure 11b

DETAIL 'B' TRACK LIGHT CABLE WIRING



NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70TI CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1 °
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME *P–300–A–024*

xxx–xxx–xxx
xxx–xxx–xxx
xxx–xxx–xxx
NEXT ASSEMBLY

SCALE *n/a*
DRAWN *rwv7089*
CHECKED
APPROVED
DATE *4/09*
WEIGHT *n/a* LB.

MOHAWK RESOURCES LTD.

TITLE *Parallelogram Field Wiring Details 6 LEG LIFT*

FROM *n/a*
DRAWING NUMBER *P–300–A–024*

CONTROL ENCLOSURE ELECTRICAL FIELD WIRING CONNECTIONS (FOR 8 LEG LIFTS ONLY)

DETAIL 'A' INTRINSICALLY SAFE TERMINAL FIELD WIRING

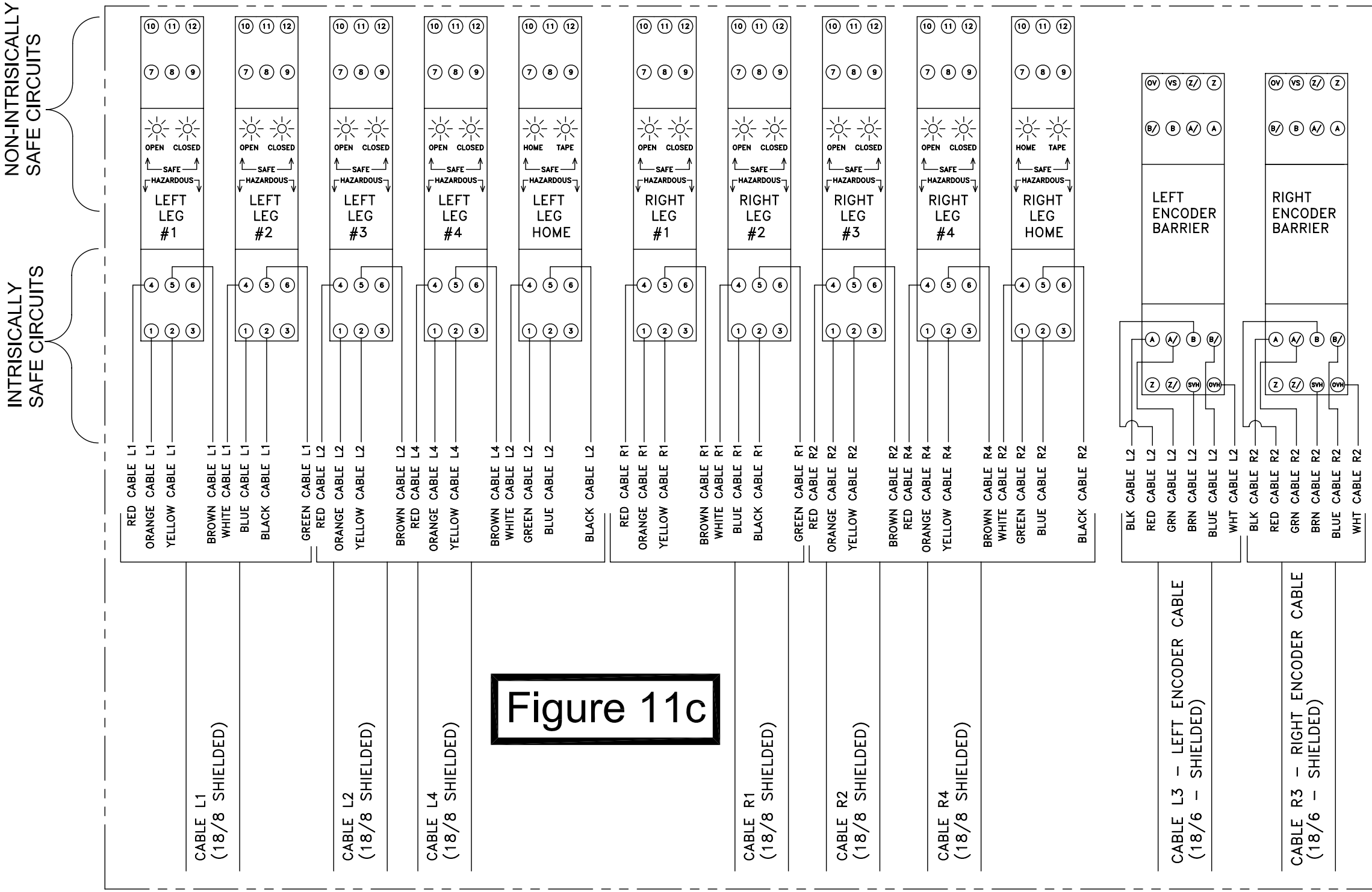
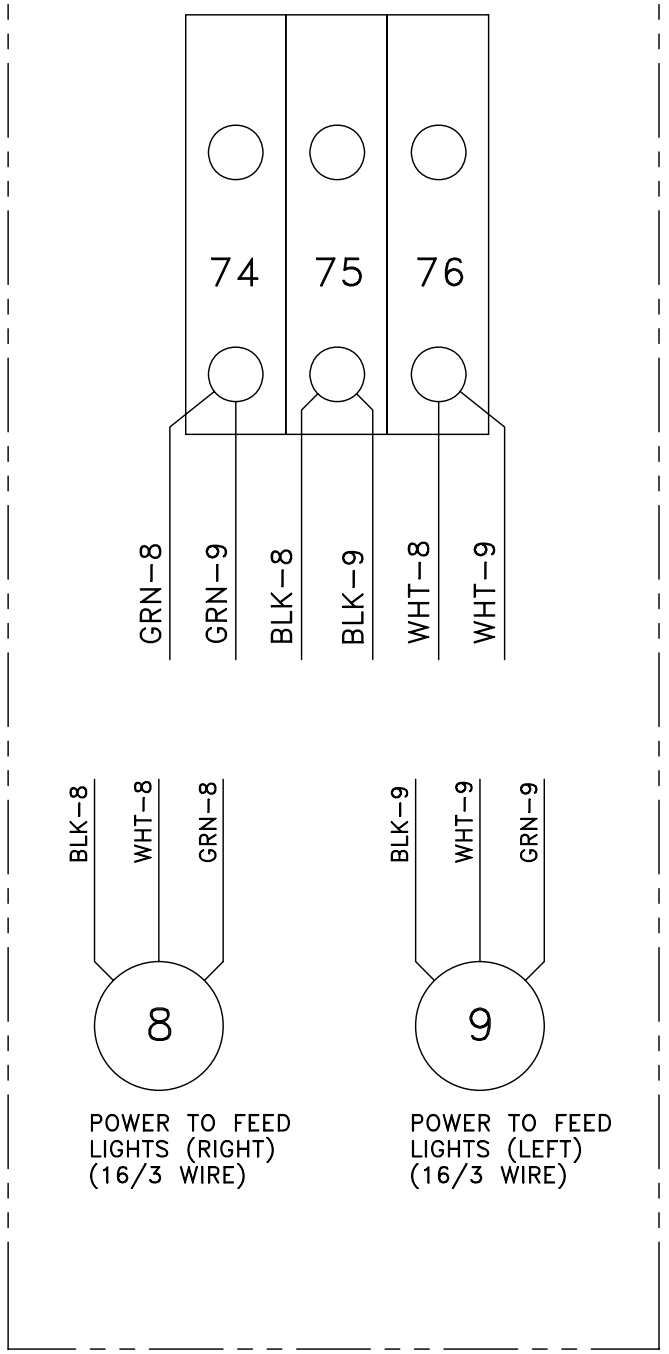


Figure 11c

DETAIL 'B' TRACK LIGHT CABLE WIRING



NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70TI CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1 °
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME *P-300-A-025*

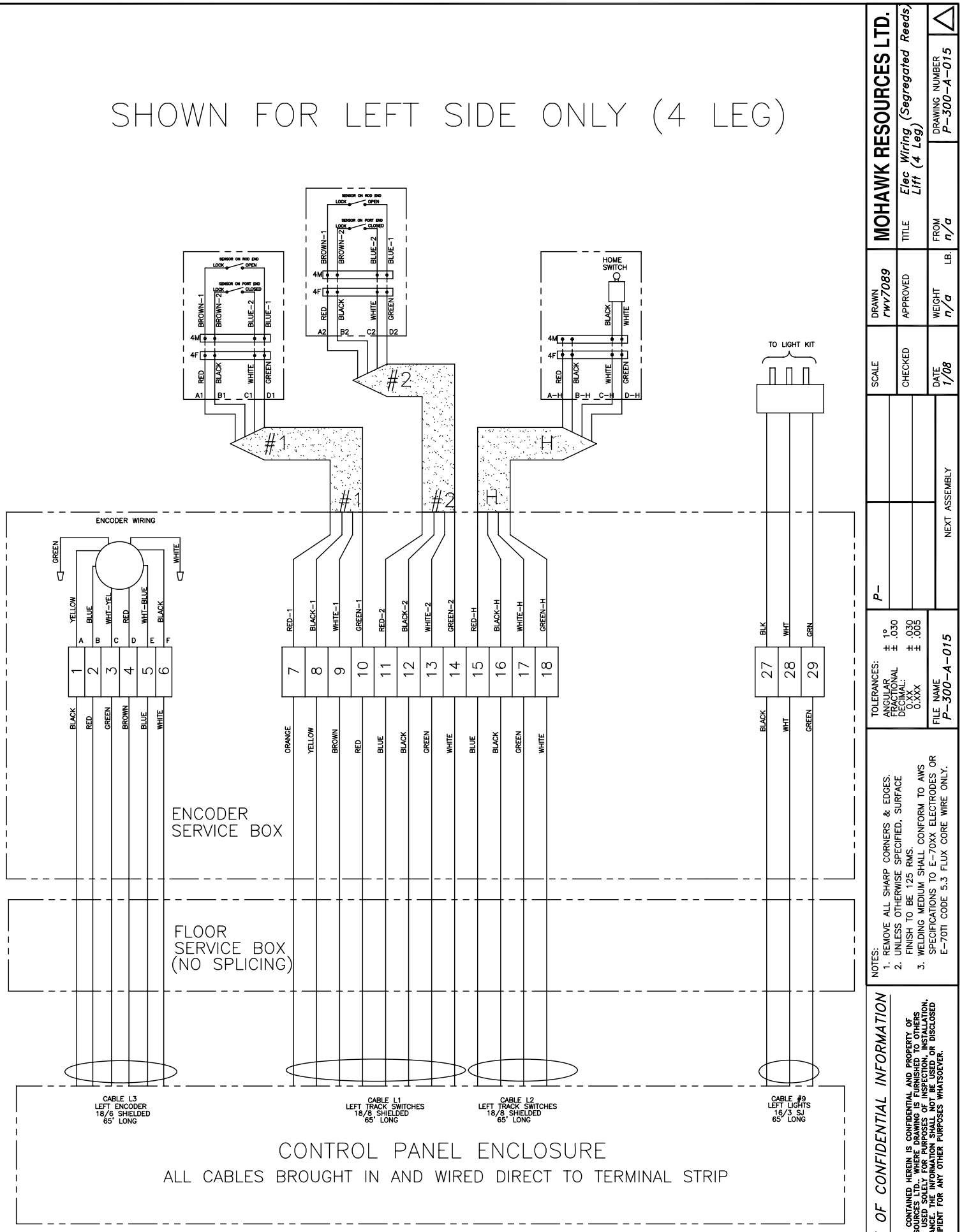
xxx-xxx-xxx
xxx-xxx-xxx
xxx-xxx-xxx
NEXT ASSEMBLY

SCALE *n/a*
DRAWN *rwv7089*
CHECKED
APPROVED
DATE *4/09*
WEIGHT *n/a* LB.

MOHAWK RESOURCES LTD.

TITLE *Parallelogram Field Wiring Details 8 LEG LIFT*

FROM *n/a*
DRAWING NUMBER *P-300-A-025*



NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70T1 CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1°
DECIMAL: ± .030
0.XX ± .005
0.XXX

FILE NAME P-300-A-015

P-

NEXT ASSEMBLY

SCALE

CHECKED

DRAWN rwv7089

APPROVED

DATE 1/08

WEIGHT n/a LB.

MOHAWK RESOURCES LTD.

TITLE *Elec Wiring (Segregated Reeds) Lift (4 Leg)*

FROM n/a

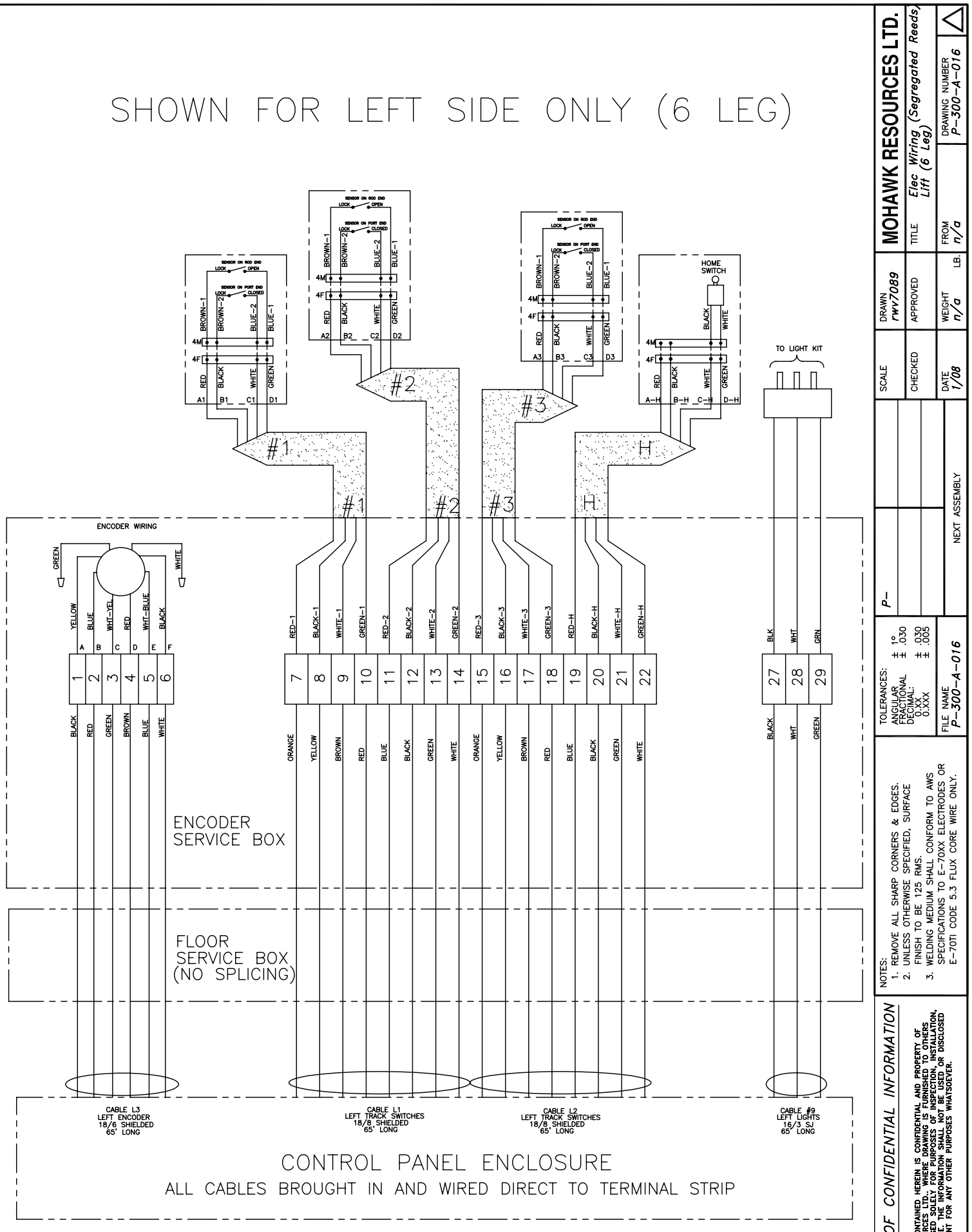
DRAWING NUMBER P-300-A-015

C-SIZE

NOTICE OF CONFIDENTIAL INFORMATION

INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPERTY OF MOHAWK RESOURCES LTD.. WHERE DRAWING IS FURNISHED TO OTHERS IT SHALL BE USED SOLELY FOR PURPOSES OF INSPECTION, INSTALLATION, OR MAINTENANCE. THE INFORMATION SHALL NOT BE USED OR DISCLOSED BY THE RECIPIENT FOR ANY OTHER PURPOSES WHATSOEVER.

Figure 12



NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70T1 CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME P-300-A-016

P-

NEXT ASSEMBLY

SCALE

CHECKED

DRAWN rwv7089

APPROVED

DATE 1/08

WEIGHT n/a LB.

MOHAWK RESOURCES LTD.

TITLE *Elec Wiring (Segregated Reeds, Liftt (6 Leg)*

FROM n/a

DRAWING NUMBER P-300-A-016

C-SIZE

NOTICE OF CONFIDENTIAL INFORMATION

INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPERTY OF MOHAWK RESOURCES LTD.. WHERE DRAWING IS FURNISHED TO OTHERS IT SHALL BE USED SOLELY FOR PURPOSES OF INSPECTION, INSTALLATION, OR MAINTENANCE. THE INFORMATION SHALL NOT BE USED OR DISCLOSED BY THE RECIPIENT FOR ANY OTHER PURPOSES WHATSOEVER.

Figure 13

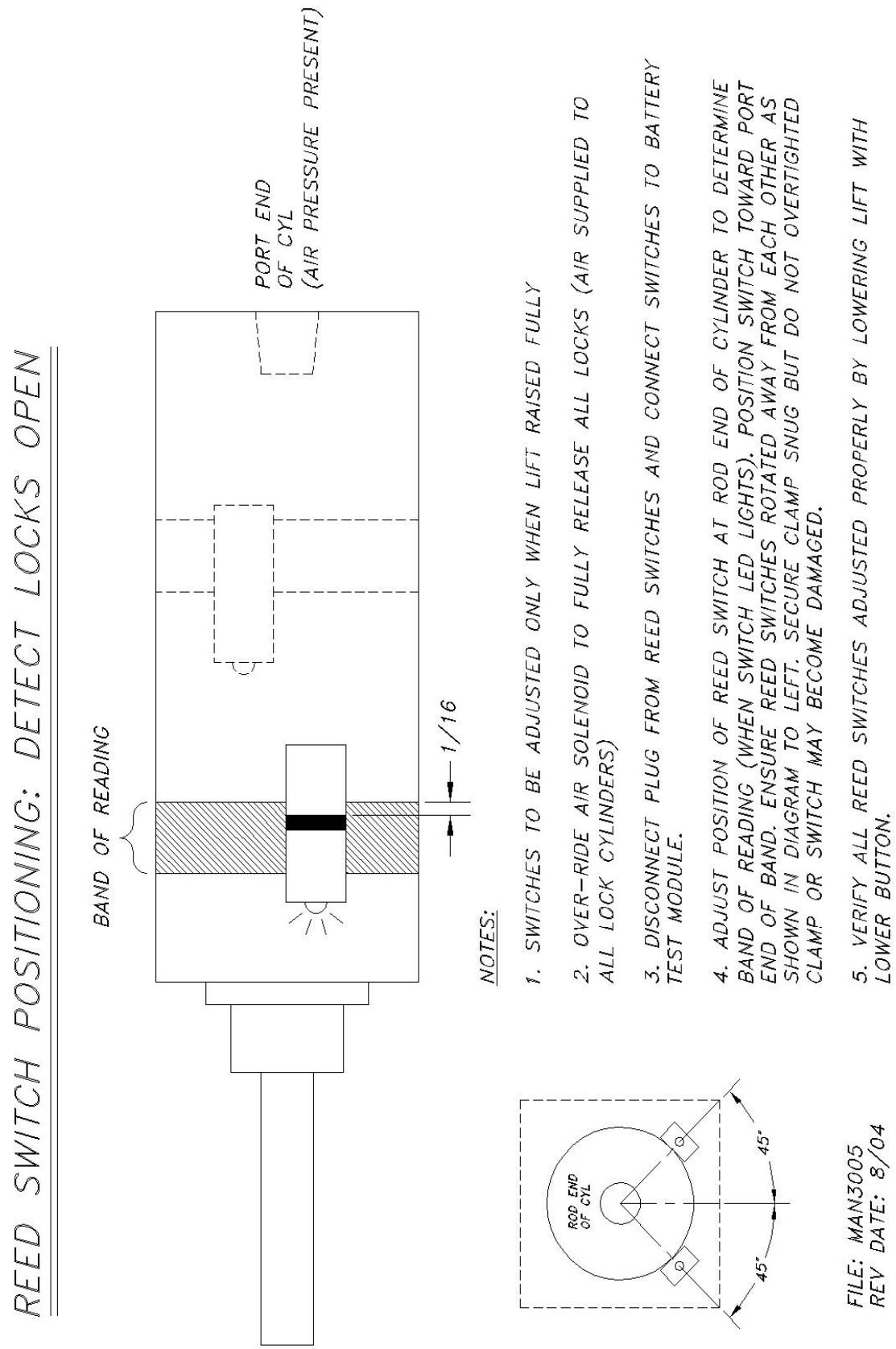

REED SWITCH POSITIONING: DETECT LOCKS OPEN
PORT END
OF CYL
(AIR PRESSURE PRESENT)
BAND OF READING
1/16
NOTES:
1. SWITCHES TO BE ADJUSTED ONLY WHEN LIFT RAISED FULLY
2. OVER-RIDE AIR SOLENOID TO FULLY RELEASE ALL LOCKS (AIR SUPPLIED TO ALL LOCK CYLINDERS)
3. DISCONNECT PLUG FROM REED SWITCHES AND CONNECT SWITCHES TO BATTERY TEST MODULE.
4. ADJUST POSITION OF REED SWITCH AT ROD END OF CYLINDER TO DETERMINE BAND OF READING (WHEN SWITCH LED LIGHTS). POSITION SWITCH TOWARD PORT END OF BAND. ENSURE REED SWITCHES ROTATED AWAY FROM EACH OTHER AS SHOWN IN DIAGRAM TO LEFT. SECURE CLAMP SNUG BUT DO NOT OVERTIGHTED CLAMP OR SWITCH MAY BECOME DAMAGED.
5. VERIFY ALL REED SWITCHES ADJUSTED PROPERLY BY LOWERING LIFT WITH LOWER BUTTON.
ROD END
OF CYL
45°
45°
FILE: MAN3005
REV DATE: 8/04

Figure 14

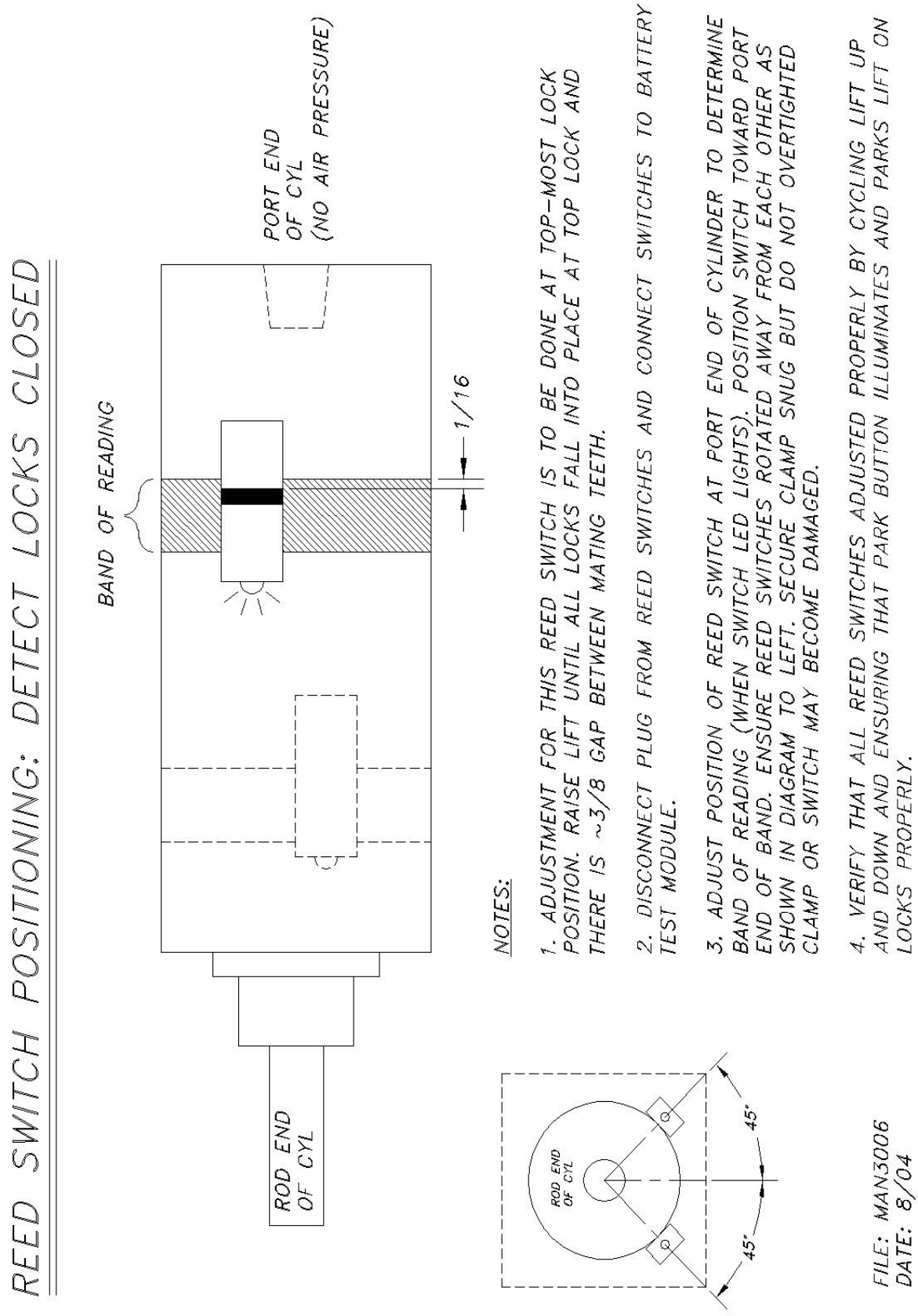
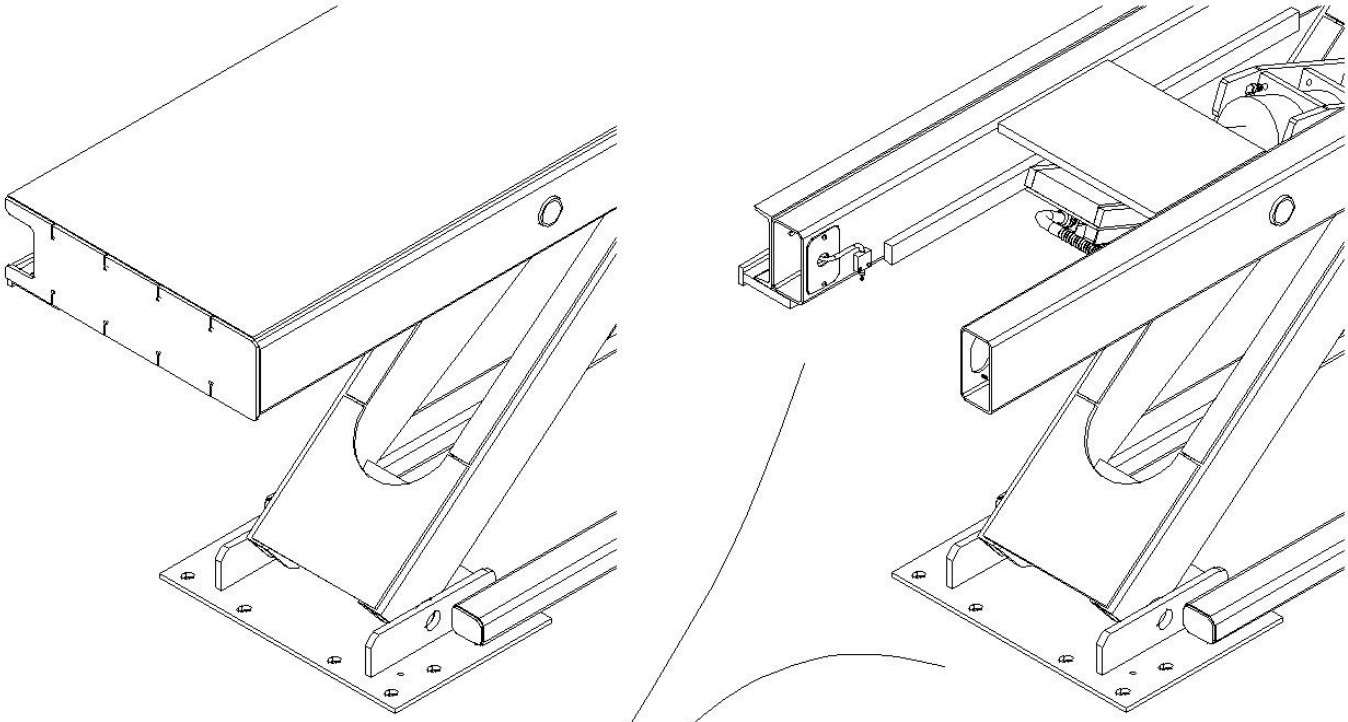
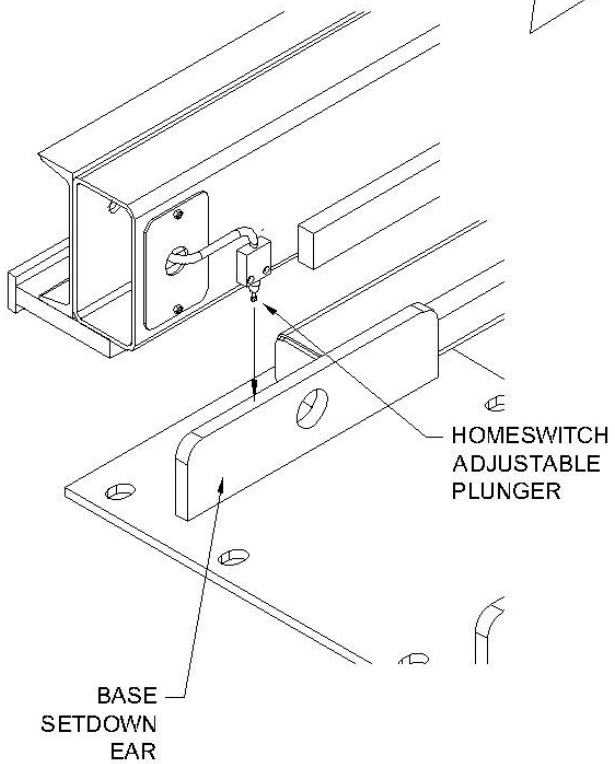

REED SWITCH POSITIONING: DETECT LOCKS CLOSED
BAND OF READING
PORT END
OF CYL
(NO AIR PRESSURE)
1/16
ROD END
OF CYL
NOTES:
1. ADJUSTMENT FOR THIS REED SWITCH IS TO BE DONE AT TOP-MOST LOCK POSITION. RAISE LIFT UNTIL ALL LOCKS FALL INTO PLACE AT TOP LOCK AND THERE IS ~3/8 GAP BETWEEN MATING TEETH.
2. DISCONNECT PLUG FROM REED SWITCHES AND CONNECT SWITCHES TO BATTERY TEST MODULE.
3. ADJUST POSITION OF REED SWITCH AT PORT END OF CYLINDER TO DETERMINE BAND OF READING (WHEN SWITCH LED LIGHTS). POSITION SWITCH TOWARD PORT END OF BAND. ENSURE REED SWITCHES ROTATED AWAY FROM EACH OTHER AS SHOWN IN DIAGRAM TO LEFT. SECURE CLAMP SNUG BUT DO NOT OVERTIGHTED CLAMP OR SWITCH MAY BECOME DAMAGED.
4. VERIFY THAT ALL REED SWITCHES ADJUSTED PROPERLY BY CYCLING LIFT UP AND DOWN AND ENSURING THAT PARK BUTTON ILLUMINATES AND PARKS LIFT ON LOCKS PROPERLY.
ROD END
OF CYL
45°
45°
FILE: MAN3006
DATE: 8/04

Figure 15

HOME SWITCH ADJUSTMENT PROCEDURE





HOME SWITCH ADJUSTMENT PROCEDURE:

1. ENSURE BOTH HOME SWITCH PLUNGERS TURNED TO FULLY COLLAPSED POSITION.

2. ENSURE THAT SWITCHES DO NOT HIT BASE SETDOWN BARS WHEN PLATFORMS ARE FULLY LOWERED, USING MANUAL LOWERING VALVES AT THE BOTTOM (CONTROL SCREEN WILL NOT ZERO OUT PLATFORM HEIGHT)

3. RAISE TO A WORKABLE HEIGHT AND BACK SCREWS OUT OF SWITCHES A FEW TURNS.

4. LOWER PLATFORM AGAIN, USING MANUAL LOWERING VALVE AT THE BOTTOM.

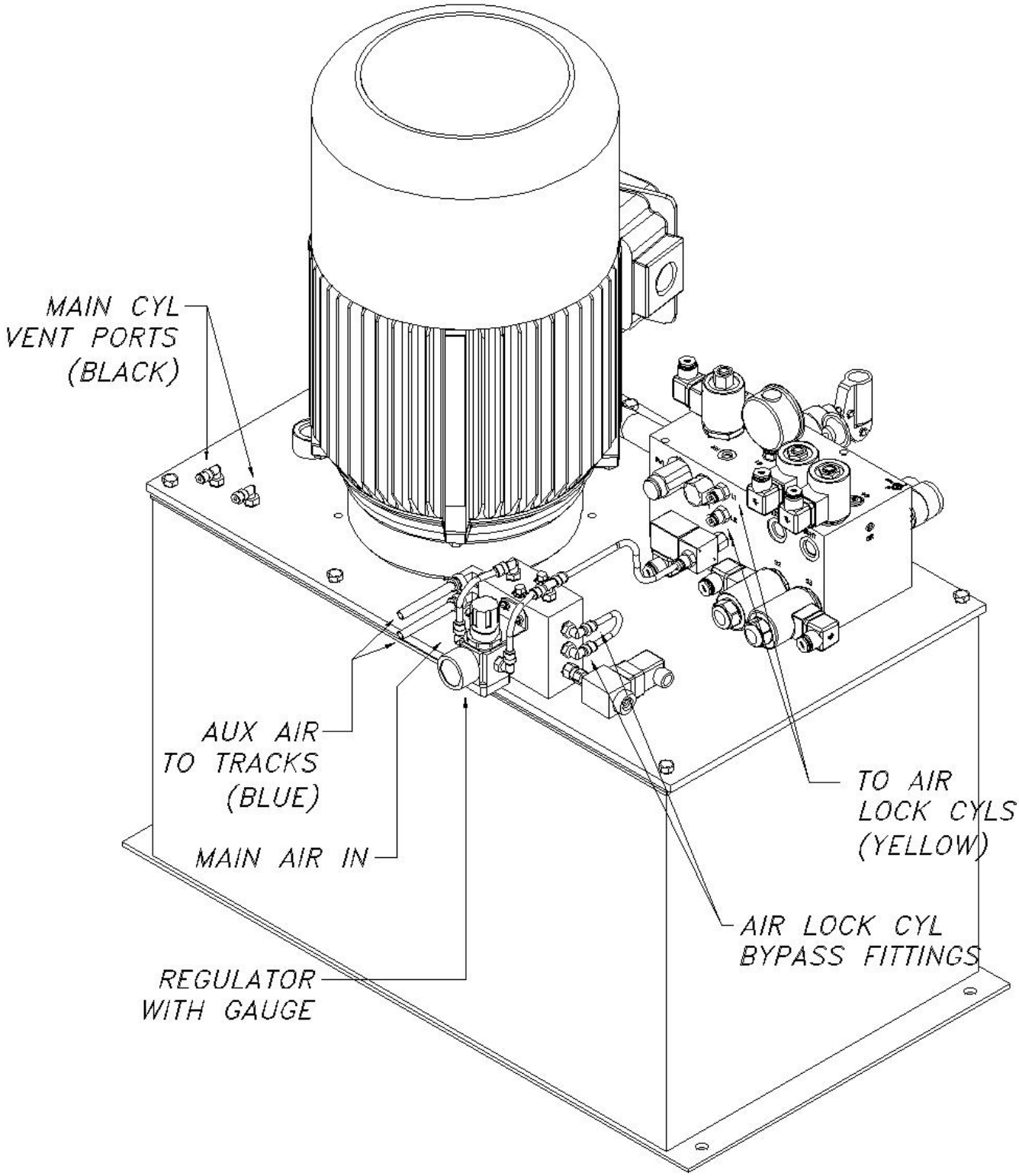
5. WHEN PLATFORM ZERO'S OUT ON CONTROL SCREEN, HOME SWITCH IS SET. BACK SCREW OUT OF HOME SWITCH ONE MORE COMPLETE TURN, THEN JAM WITH NUT.

6. REPEAT STEPS 3-5 UNTIL BOTH HOME SWITCHES ZERO OUT WHEN PLATFORMS ARE FULLY LOWERED.

7. RAISE AND LOWER LIFT A FEW TIMES TO VERIFY THAT BOTH PLATFORMS ARE ZEROING OUT AT FULLY LOWERED POSITION, WITHOUT HAVING TO USE MANUAL LOWERING VALVES.

FILE: MAN3010
REV: 5/03

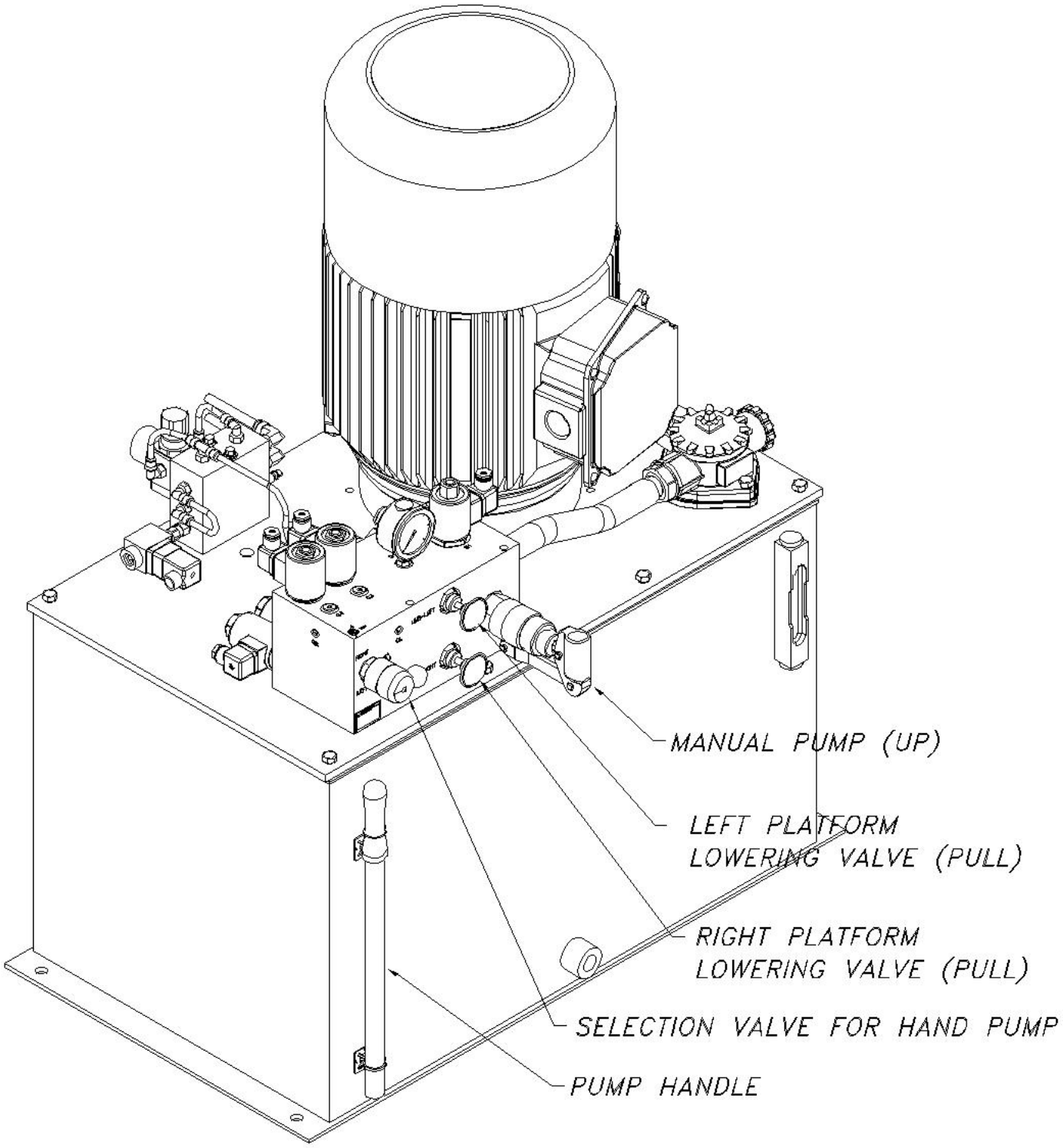
Figure 16



CONSOLE PNEUMATIC CONNECTIONS

FILE: MAN3008A

Figure 17



CONSOLE MANUAL OVERRIDE CONTROLS

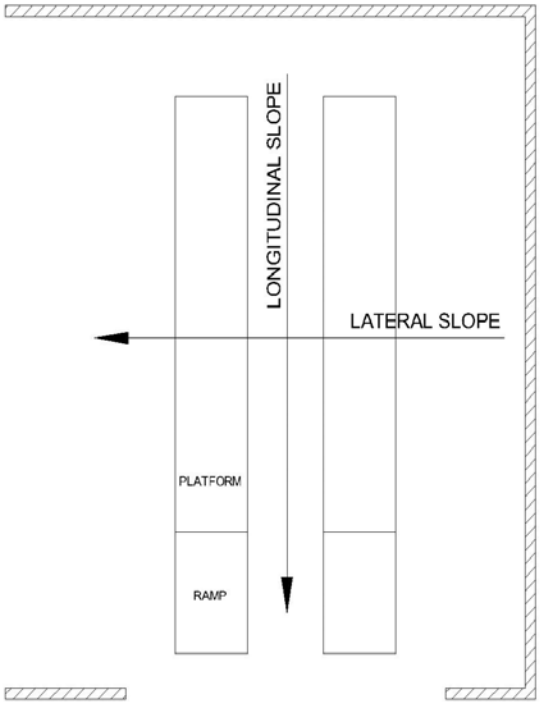
FILE: MAN3008B

Figure 18

Parallelogram Shimming Notes:

File: Parallel Shim.doc
Date: 10/3/2003

The ideal surface to install Mohawk Parallelogram style lifts in on a perfectly flat and level floor. This, however, is usually the exception rather than the norm when installing these lifts in the field. When a non-flat or non-level floor is encountered, the following shimming guidelines should be followed:

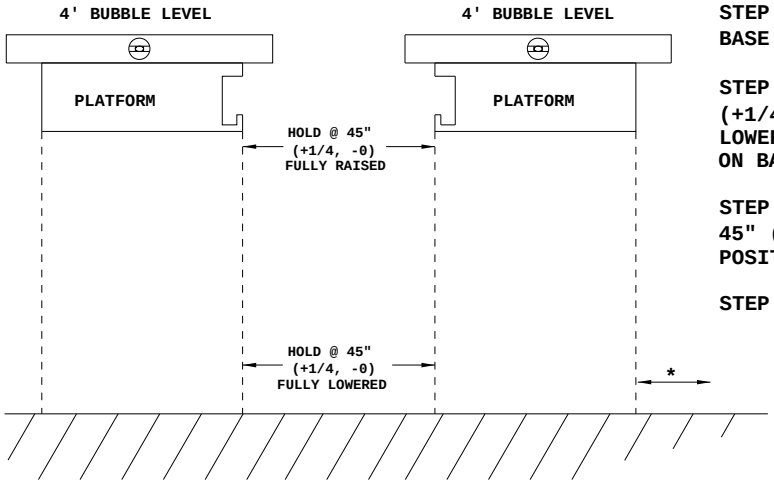


TYPICAL BAY INSTALLATION FOR
A MOHAWK PARALLELOGRAM STYLE LIFT
FILE: MAN3012

Lateral Shimming (Left to Right):
The lift must be shimmed plum and level with respect to each other, to ensure that both platforms raise evenly.

PARALLELOGRAM SHIMMING

(END VIEW OF PLATFORMS, SHOWN)



**STEP 1: POSITION TRACKS APPROXIMAT
INSIDE DIMENSION AT FULLY LOWERED P**

**STEP 2: RAISE TRACK FULLY & SHIM U
BASE TO LEVEL WITH 4' BUBBLE LEVEL.**

**STEP 3: SIDE SHIFT BASES TO ACHIEV
(+1/4", -0") INNER DIMENSION AT RAI
LOWERED POSITION. WHEN SIDE SHIFTIN
ON BASE, NOT PLATFORM. ***

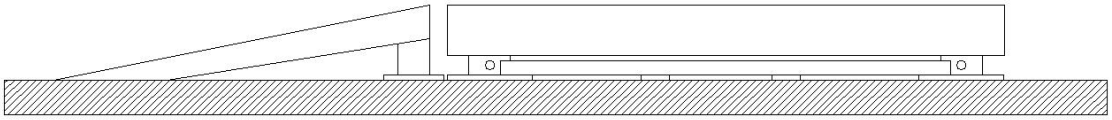
**STEP 4: VERIFY TRACKS ARE LEVEL &
45" (+1/4", -0") FULLY RAISED & LOW
POSITION.**

STEP 5: ANCHOR LIFT TO FLOOR.

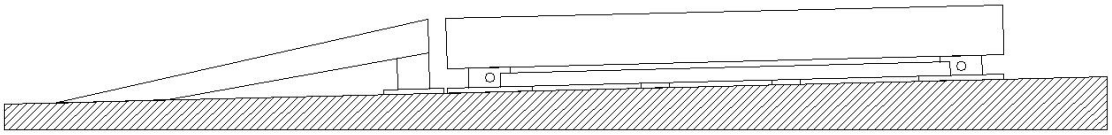
**FILE: MAN3001
DATE: 3/2003**

Longitudinal Shimming (Front to Back):
Usually the floor is sloped from the back of the bay downward to the front of the bay towards some drainage system. If this slope is in less than 3" from end to end of base frame, it is not necessary for shimming this lift level. It is left to the installer and the customer to decide if shimming the lift level is desired. Regardless, shimming may still be required to ensure the platforms are level with respect to themselves. If the slope is greater than 3" from front to end of base frame, it is recommended to shim the end of the base to within the acceptable range slope (less than 3"). The use of additional base plates, stringer plates, longer anchors and grout may be necessary to shim along the whole length of the base frame to achieve this. Also note that the ramps themselves may need to be shimmed up to meet the level of the platforms. If this is the case, the ramp angle will be increased, and the customer should be made aware of this.

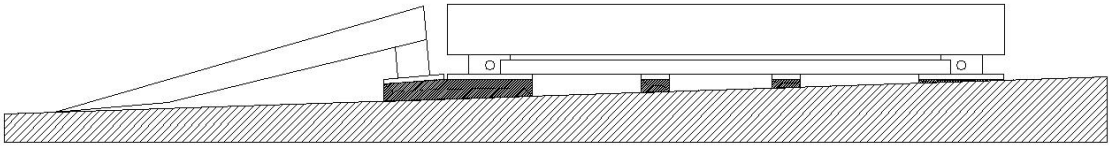
LIFT ON FLAT AND LEVEL FLOOR (LONGITUDINALLY)



LIFT ON UN-LEVEL FLOOR (LONGITUDINALLY) WITHOUT SHIMMING



LIFT ON UN-LEVEL FLOOR (LONGITUDINALLY) WITH SHIMMING



LONGITUDINAL SHIMMING OF
A MOHAWK PARALLELOGRAM STYLE LIFT

FILE: MAN3013

In conclusion, without shimming, this lift can only be as level as the floor it is put on. If shimming is required to correct floor slopes, uneven floors, etc., additional time will be required for installation, and additional costs may be incurred for extra shims, base plates, grout, etc.

Figure 19

PARALLELOGRAM

MISCELLANEOUS INFO

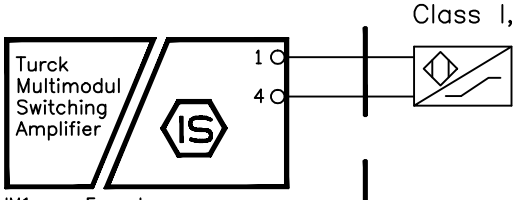
MOHAWK RESOURCES LTD.

65 VROOMAN AVE.
AMSTERDAM, NY 12010
TOLL FREE: 1-800-833-2006
LOCAL: 1-518-842-1431
FAX: 1-518-842-1289
INTERNET: WWW.MOHAWKLIFTS.COM
E-MAIL: SERVICE@MOHAWKLIFTS.COM

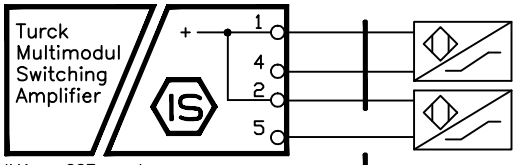
Discrete Input Devices with Intrinsically Safe Field Circuits

NON–HAZARDOUS LOCATION

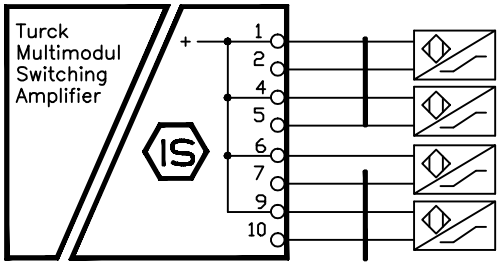
HAZARDOUS (CLASSIFIED) LOCATION
Class I, Div. 1, Group A, B, C or D;
Class II, Div. 1, Group E, F or G;
Class III, Div. 1; or
Class I, Zone 0, Group IIC, IIB or IIA



IM1 – a Ex – b
a = 12, or 121
b = R, T, or MT



IM1 – 22Ex – b
IM12 – 22Ex – b
b = R, T, or MT



IM1– c Ex – d
c = 44 or 451
d = R or T

Entity Parameters: Class I, Division 1; Class II, Division 1; Class III, Division 1
Circuit Characteristic: Linear

Model	Terminals	V_{oc} (V)	I_{sc} (mA)	P_o (mW)	C_a(uF) AB/CE/DFG	L_a (mH) AB/CE/DFG
IM1–12Ex–.	1–4	9.6	11	27	3.6/26.0/210	250/922/1H
IM1–121Ex–.						
IM1–22Ex–.	1–4, 2–5	9.6	11	27	3.6/26.0/210	250/922/1H
IM12–22Ex–.						
IM1–44Ex–.	1–2, 4–5, 6–7, 9–10	11.5	12.8	37	1.6/11.2/46.0	222/781/1H
IM1–451Ex–.						

Model	Terminals	V_t (V)	I_t (mA)	P_o (mW)	C_a(uF) AB/CE/DFG	L_a (mH) AB/CE/DFG
IM1–22Ex–.	1–2–4–5	9.6	22	54	3.6/26.0/210	67/246/579
IM12–22Ex–.						
IM1–44Ex–.	1–2–4–5–6–7–9–10	11.5	51	147	1.6/11.2/46.0	12.5/49.0/108
IM1–451Ex–.						

Entity Parameters: Class I, Zone 0, 1, or 2
Circuit Characteristic: Linear

Model	Terminals	U_o (V)	I_o (mA)	P_o (mW)	C_o(uF) IIC/IIB/IIA	L_o (mH) IIC/IIB/IIA
IM1–12Ex–.	1–4	9.6	11	26	3.6/11.3/30.1	282/981/1H
IM1–121Ex–.						
IM1–22Ex–.	1–4, 2–5	9.6	11	26	3.6/11.3/30.1	282/981/1H
IM12–22Ex–.						
IM1–22Ex–.	1–2–4–5	9.6	22	54	3.6/26.0/210	67/246/579
IM12–22Ex–.						
IM1–44Ex–.	1–2, 4–5, 6–7, 9–10	11.5	12.8	37	1.6/11.2/46.0	222/781/1H
IM1–451Ex–.						
IM1–44Ex–.	1–2–4–5–6–7–9–10	11.5	51	147	1.6/11.2/46.0	12.5/49.0/108
IM1–451Ex–.						

Notes:

1. The symbol designates third party approved with correct entity parameters meeting the relations shown in Table 1, or simple apparatus.
2. Multiple circuits extending from the same piece of Associated Apparatus equipment must be installed in separate cables or in one cable having suitable insulation. Refer to Instrument Society of America Recommended Practice ISA RP12.6 for installing intrinsically safe equipment.
3. A simple apparatus is defined as an electrical component or combination of components of simple construction with well–defined electrical parameters that does not generate more than 1.5V, 100mA, and 25mW, or a passive component that does not dissipate more than 1.3W and is compatable with the intrinsic safety of the circuit in which it is used.
4. Capacitance and inductance of the field wiring from the intrinsically safe equipment to the barrier should be calculated and should be included in the system calculations as shown in Table 1. Cable capacitance (Cc) plus intrinsically safe equipment capacitance (Ci) must be less than the marked capacitance (Ca) shown on any barrier used. The same applies for inductance (Lc, Li and La, respectively). Where the cable capacitance and inductance per foot are not known, the following values shall be used: Cc = 60 pF/ft, Lc = 0.2 uH/ft.

Table 1

I.S. Equipment		Barrier	
V_{max}	≥	V_{oc}	(or V_t)
I_{max}	≥	I_{sc}	(or I_t)
$C_i + C_c$	≤	C_a	
$L_i + L_c$	≤	L_a	
U_i	≥	U_o	
I_i	≥	I_o	
$C_i + C_{cable}$	≤	C_o	
$L_i + L_{cable}$	≤	L_o	
P_i	≥	P_o	

If Po of the barrier is not known, it may be calculated using the formula Po = (Voc *Isc)/4

5. Barriers must be installed in accordance with barrier manufacturer's control drawing and Article 504 of the National Electrical Code, ANSI/NFPA 70, for installation in the United States.
6. Control equipment must not use or generate more than 250V rms or dc with respect to earth.
7. WARNING: To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.

Rev	Description	Drft	Date
A	Release	BVL	6/6/07

Drawing No.: IS-1.301

TURCK
3000 Campus Drive
Plymouth, MN 55441
Phone: (763) 553-7300

Title: Control Drawing for UL Listed IM1-...Ex-. and IM12-..Ex-. Isolator Barriers with I/S (Entity) Field Circuits

Scale: NONE

Sheet 1 of 1

Ltr	Revision	Date
A	REDRAWN FOR RELEASE	11/30/00

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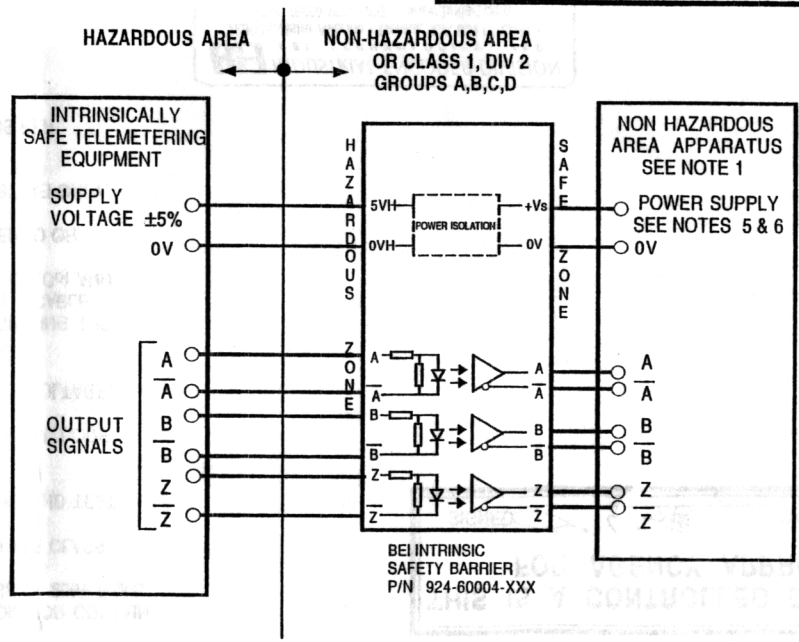
SIGNED _____ DATE 1-25-01

TABLE 1 BARRIER PARAMETERS

Voltage Supply At Encoder	Voc (Uo)	Isc (Io)	Class I, Group D Class II, Groups E,F,G Group II A		Class I, Group C Group IIB		Class I, Groups A,B Group IIC	
+5VDC	8.9	345mA	Ca (Co)	La (Lo)	Ca (Co)	La (Lo)	Ca (Co)	La (Lo)
			590 uF	2.0 mH	43 uF	0.75 mH	5.6 uF	0.4 mH

TABLE 2 ELECTRICAL SPECIFICATIONS

VOLTAGE SUPPLY AT ENCODER, NOMINAL	+5 VDC ±5% @100mA (FUSED AT 160mA)
APPROX. POWER SUPPLY VOLTAGE TO BARRIER	SEE TABLE 3
APPROX. POWER SUPPLY CURRENT TO BARRIER	200 mA NOMINAL
INPUT SIGNAL LEVEL FROM ENCODER	4V NOMINAL, 6V MAX
BARRIER SIGNAL INPUT IMPEDANCE	500 Ω NOMINAL
INPUT TO BARRIER FROM ENCODER	A, $\overline{A}$, B, $\overline{B}$ Z, $\overline{Z}$ (QUADRATURE WITH INDEX)
INPUT CURRENT FROM ENCODER A TO A, B TO B, Z TO Z	10 mA PER CHANNEL, NOMINAL
BARRIER OUTPUT TO NON-HAZARDOUS APPARATUS	SEE TABLE 3
FREQUENCY RESPONSE	250 KHZ MAX



BARRIER PARAMETERS		ENCODER & CABLE PARAMETERS
Voc (Uo)	≤	V MAX
Isc (Io)	≤	I MAX
Ca (Co)	≥	Ci + C cable
La (Lo)	≥	Li + L cable

SEE TABLE 1 AND NOTE 7

All drawings and specifications are and remain the property of BEI Motion Systems Company. All specifications are confidential and are not to be disclosed to any persons other than those to whom they are sent. No drawings, specifications or other data belonging to BEI Motion Systems Company which may be furnished to manufacturers or others for any purpose are to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation or conveying any rights or permission to manufacture, use or sell any patented invention that may in any way be related thereto

Unless otherwise specified:
Dimensions are in inches.
Tolerances:
XXX = .005
XX = ±.01

BEI Industrial Encoder Division
BEI SENSORS AND SYSTEMS COMPANY
7230 Hollister Avenue • Goleta, CA 93117-2891 • Tel: (805) 968-0782 • Fax: (805) 968-3154

Material	Drawn	SYSTEM DIAGRAM, GALVANICALLY ISOLATED BARRIER		
	App'd			
Finish	Scale	Code Ident. No. 12050	Dwg. No. 924-08067-001 1/2	Rev. A

01061	09173
Next Assy	Used on

NOTES:

1. NON-HAZARDOUS AREA APPARATUS THAT IS UNSPECIFIED EXCEPT THAT IT MUST NOT BE SUPPLIED FROM NOR CONTAIN UNDER NORMAL OR ABNORMAL CONDITIONS A SOURCE OF POTENTIAL WITH RESPECT TO EARTH IN EXCESS OF 250V R.M.S. OR 250 V.D.C
2. INTRINSICALLY SAFE ENCODERS: HAZARDOUS AREA APPARATUS THAT IS CERTIFIED TO THE APPROPRIATE CLASS AND GROUP BY THE CERTIFICATION BODY OF THE COUNTRY OF USE.
3. THE ELECTRICAL CIRCUITS IN THE HAZARDOUS AREA MUST BE CAPABLE OF SURVIVING A VOLTAGE WITHSTAND TEST OF 500V R.M.S. TO EARTH OR FRAME OF THE APPARATUS.
4. THE INSTALLATION MUST COMPLY WITH THE REGULATIONS OF THE COUNTRY OF USE.

4a NORTH AMERICAN INSTALLATIONS: INSTALLATION MUST BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE NFPA70, ARTICLE 504, ANSI/ISA-RP12.6 AND CEC PART 1, APPENDIX F.

5. THE POWER SOURCE MUST BE CONSISTENT WITH PART NUMBER AND OUTPUT TYPE SPECIFIED IN TABLE 3. VOLTAGES GREATER THAN 5% OF THE NOMINAL BARRIER SUPPLY VOLTAGE MAY DAMAGE THE BARRIER.
6. FUSES IN THE BARRIERS MAY RUPTURE IF INPUT VOLTAGE EXCEEDS MAX SUPPLY VOLTAGE (Vs) IN TABLE 3.
7. HAZARDOUS AREA CABLE CAPACITANCE (C cable) AND INDUCTANCE (I cable) ARE CALCULATED BY MULTIPLYING THE CABLE LENGTH (IN FEET) BY THE NUMBER OF CONDUCTORS BY 60 pF / FT. AND 0.2 uH / FT. RESPECTIVELY. CABLE CAPACITANCE (C cable) AND INDUCTANCE (I cable) VALUES PLUS Ci AND Li MUST NOT EXCEED VALUES OF Ca (Co) AND La (Lo) DETERMINED BY BARRIER MANUFACTURER.
8. THIS DESIGN IS CERTIFIED BY UL / DEMKO. NO CHANGES ARE ALLOWED WITHOUT APPROVAL FROM UL / DEMKO OR EQUIVALENT CERTIFYING BODY.
9. **WARNING:** SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY. REPAIRS TO BE PERFORMED BY BEI ONLY.
10. ASSOCIATED APPARATUS AND APPAREILLAGE CONNEXE;
    AVERTISSEMENT: LA SUBSTITUTION DE COMPONANTS PEUT COMPROMETTE LA SECURITE INTRINSEQUE.
11. DIV 2 INSTALLATIONS: USE GENERAL PURPOSE ENCLOSURE SUITABLE FOR CLASS 1, DIV 2 WIRING METHODS PER NATIONAL ELECTRICAL CODE NFPA 70, ARTICLE 501.

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SIGNED _____ DATE 01-02-01

TABLE 3 TABLE 3 POWER SUPPLY / OUTPUT TYPES

PART NUMBER	BARRIER SUPPLY Vs +/- 5%	OUTPUT VOLTAGE TO NON-HAZARDOUS AREA APPARATUS	OUTPUT TYPE NON-HAZARDOUS AREA APPARATUS
924-60004-001	12-15 VOLTS	Vout=Vin (nominal)	LINE DRIVER 4469 100mA Source/Sink
924-60004-002	12-24 VOLTS	Vout=5V	LINE DRIVER 4469 100mA Source/Sink
924-60004-003	12-24 VOLTS	Vout=Vin (nominal)	LINE DRIVER 7272 100mA Source/Sink
924-60004-004	12-24 VOLTS	OPEN COLLECTOR	NPN OPEN COLLECTOR 40mA Source/Sink

BEI INDUSTRIAL ENCODER DIVISION
BEI TECHNOLOGIES, INC.
7230 Hollister Avenue • Goleta, CA 93117-2891 •
Tel: (805) 968-0782 www.beiied.com
GALVANICALLY ISOLATED BARRIER
PROCESS CONTROL EQUIPMENT CE

Voc (Uo)=8.9V
Isc (Io)=345mA
Ca(Co)=5.6uF
La (Lo)=0.40mH

DEMKO 00E 0020104 [EEx ia] IIC
[Exia] LISTED 58EN
Associated Apparatus Suitable for mounting in a Class I, Div 2 Hazardous location: Provides Intrinsically Safe outputs for use in Class I, Groups A,B,C,AD, Class II, Groups E,F&G and Class III hazardous locations when installed in accordance with BEI Control Drawing 924-08067-001
Warning: Substitution of Components May Impair Intrinsic Safety

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Unless otherwise specified:
Dimensions are in inches.
Tolerances:
XXX = .005
XX = ±.01

BEI **Industrial Encoder Division**
BEI SENSORS AND SYSTEMS COMPANY
7230 Hollister Avenue • Goleta, CA 93117-2891 • Tel: (805) 968-0782 • Fax: (805) 968-3154

Material	Drawn	SYSTEM DIAGRAM, GALVANICALLY ISOLATED BARRIER	
	App'd		
Finish	Scale	Code Ident. No. 12050	Dwg. No. 924-08067-001 2/2 Rev. A1

Next Assy	Used on

Ltr	Revision	Date
C	REVISED NAMEPLATE	12/12/96
D	ECN 3227, REVERSED SYMBOLS ON BARRIER PARAMETERS	4/15/98

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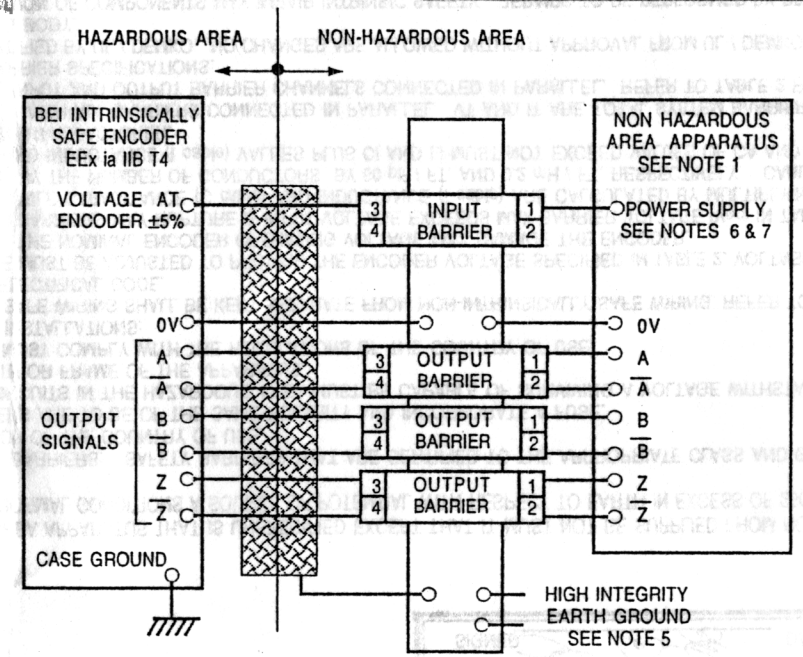
FOR AGENCY APPROVAL
SIGNED T. Wolf DATE 4-28-98

TABLE 1

Voltage Supply At Encoder	V Max I MAX	Group (Europe) CLASS II	Group (No. America)		Encoder Ci	Encoder Li
			Class I	Class I I		
+5VDC	15VDC 1.2 A	A,B	C,D	E,F,G	.75 µF	0 mH

TABLE 2 ELECTRICAL SPECIFICATIONS

VOLTAGE SUPPLY AT ENCODER	+5 VDC ±5%
APPROX. POWER SUPPLY VOLTAGE TO BARRIER	11 VDC
INPUT BARRIER	Voc = 15VDC MAX Isc = 300 mA MAX
OUTPUT BARRIER	Voc = 15VDC MAX. Isc = 150mA MAX. PER BARRIER CHANNEL
MAXIMUM CURRENT REQ'D BY ENCODER (OUTPUT IMPEDANCE)	140 mA (500 Ω)
TYPICAL CURRENT REQ'D BY ENCODER	120 mA
OUTPUT CURRENT FROM A OR $\overline{A}$	10 mA
OUTPUT CURRENT FROM B OR $\overline{B}$	10 mA
OUTPUT CURRENT FROM Z OR $\overline{Z}$	10 mA
CURRENT TAKEN BY NON-DRIVE CIRCUIT OF ENCODER	140 mA - 30 mA =110mA MAX 120 mA - 30 mA = 90 mA TYPICAL



BARRIER PARAMETERS

VT ≦ V MAX
IT ≦ I MAX
ÇA ≧ Ci + C cable
LA ≧ Li + L cable

SEE TABLE 1 AND NOTES 8 AND 9

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Tolerances:
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XX = ±.01

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Material
Finish
Drawn DVC
App'd
Scale

SYSTEM DIAGRAM, INTRINSICALLY SAFE ENCODER TYPE 4469

Code Ident. No.	Dwg. No.	Rev.
12050	924-08062-001 1/2	D

01061	09173
Next Assy	Used on

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SIGNED L. Wolfe DATE 4-28-98

TELEMETERING EQUIPMENT
FOR USE IN HAZARDOUS LOCATIONS

TEMP CODE T3C
CLASS I, GROUP C,D,
CLASS II GROUP E,F,G
CLASS I, ZONE 0, GROUP IIB

LISTED 55G5 — Ex ia

EEx ia IIB T4
INTRINSICALLY SAFE WHEN
INSTALLED PER DWG 924-08062-001

96C-121548X

BEI Industrial Encoder Division
BEI SENSORS AND SYSTEMS COMPANY
7230 Hollister Avenue • Goleta, CA 93117-2891 • Tel: (805) 968-0782 •

MOD. NO.
PART NO.
CUST. NO.
SER. NO
DATE
VDC IN

TYPICAL MODEL NUMBER:
H25D-1024-ABZC-4469-SM18-EX-S

SYMBOLS IN THESE AREAS MAY BE VARIED TO DENOTE STANDARD MECHANICAL VARIATONS.
THE "-S" IS USED TO DENOTE NON-STANDARD VARIATIONS.

1. NON-HAZARDOUS AREA APPARATUS THAT IS UNSPECIFIED EXCEPT THAT IT MUST NOT BE SUPPLIED FROM NOR CONTAIN UNDER NORMAL OR ABNORMAL CONDITIONS A SOURCE OF POTENTIAL WITH RESPECT TO EARTH IN EXCESS OF 250V R.M.S. OR 250 V.D.C
2. INPUT AND OUTPUT BARRIERS: SAFETY BARRIERS THAT ARE CERTIFIED TO THE APPROPRIATE CLASS AND GROUP BY THE CERTIFICATION BODY OF THE COUNTRY OF USE.
3. ALL SAFETY BARRIERS ARE TO BE OF THE SAME POLARITY AND INCORPORATE A FUSE.
4. THE ELECTRICAL CIRCUITS IN THE HAZARDOUS AREA MUST BE CAPABLE OF SURVIVING A VOLTAGE WITHSTAND TEST OF 500V R.M.S. TO EARTH OR FRAME OF THE APPARATUS.
5. THE INSTALLATION MUST COMPLY WITH THE REGULATIONS OF THE COUNTRY OF USE.

5a NORTH AMERICAN INSTALLATIONS:
ALL INTRINSICALLY SAFE WIRING SHALL BE KEPT SEPARATE FROM NON-INTRINSICALLY SAFE WIRING. REFER TO ARTICLE 504 OF THE NATIONAL ELECTRICAL CODE.

6. THE POWER SOURCE MUST BE ADJUSTED TO PROVIDE THE ENCODER VOLTAGE SPECIFIED IN TABLE 2. VOLTAGES GREATER THAN 10% OF THE NOMINAL ENCODER OPERATING VOLTAGE MAY DAMAGE THE ENCODER.
7. FUSES IN THE ZENER BARRIERS MAY RUPTURE IF INPUT VOLTAGE EXCEEDS MAX BARRIER VOLTAGE (Voc) IN TABLE 2.
8. HAZARDOUS AREA CABLE CAPACITANCE (C cable) AND INDUCTANCE (I cable) ARE CALCULATED BY MULTIPLYING THE CABLE LENGTH (IN FEET) BY THE NUMBER OF CONDUCTORS BY 60 pF / FT. AND 0.2 mH / FT. RESPECTIVELY. CABLE CAPACITANCE (C cable) AND INDUCTANCE (I cable) VALUES PLUS Ci AND Li MUST NOT EXCEED VALUES OF CA AND LA DETERMINED BY BARRIER MANUFACTURER.
9. SYSTEM EVALUATED WITH ALL BARRIERS CONNECTED IN PARALLEL. VT AND IT ARE TOTAL SYSTEM BARRIER PARAMETERS, WITH ALL INPUT AND OUTPUT BARRIER CHANNELS CONNECTED IN PARALLEL. REFER TO TABLE 2 FOR INDIVIDUAL CHANNEL BARRIER SPECIFICATIONS.
10. THIS DESIGN IS CERTIFIED BY UL / DEMKO. NO CHANGES ARE ALLOWED WITHOUT APPROVAL FROM UL / DEMKO OR EQUIVALENT CERTIFYING BODY.
11. **WARNING**: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY. REPAIRS TO BE PERFORMED BY BEI ONLY.

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XXX = .005
XX = ±.01

BEI Industrial Encoder Division
BEI SENSORS AND SYSTEMS COMPANY
7230 Hollister Avenue • Goleta, CA 93117-2891 • Tel: (805) 968-0782 • Fax: (805) 968-3154

01061	09173
Next Assy	Used on

Material
Finish
Drawn
App'd
Scale

SYSTEM DIAGRAM, INTRINSICALLY SAFE ENCODER TYPE 4469

Code Ident. No.	Dwg. No.	Rev.
12050	924-08062-001 2/2	D

Ltr	Revision	Date
C	REVISED NAMEPLATE	12/12/96
D	ECN 3227 REVERSED SYMBOLS ON BARRIER PARAMETERS	4/15/98

TABLE 1

Voltage Supply At Encoder	Input Barrier V MAX	Input Barrier I MAX	Output Barrier V MAX	Output Barrier I MAX	Group (Europe) CLASS II	Group (No. America) Class I	Group (No. America) Class II	Encoder Ci	Encoder Li
+5VDC	22vdc	450mA	28 VDC	0 A	A,B	C,D	E,F,G	.75 µF	0 mH

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SIGNED _____ DATE 4-28-98

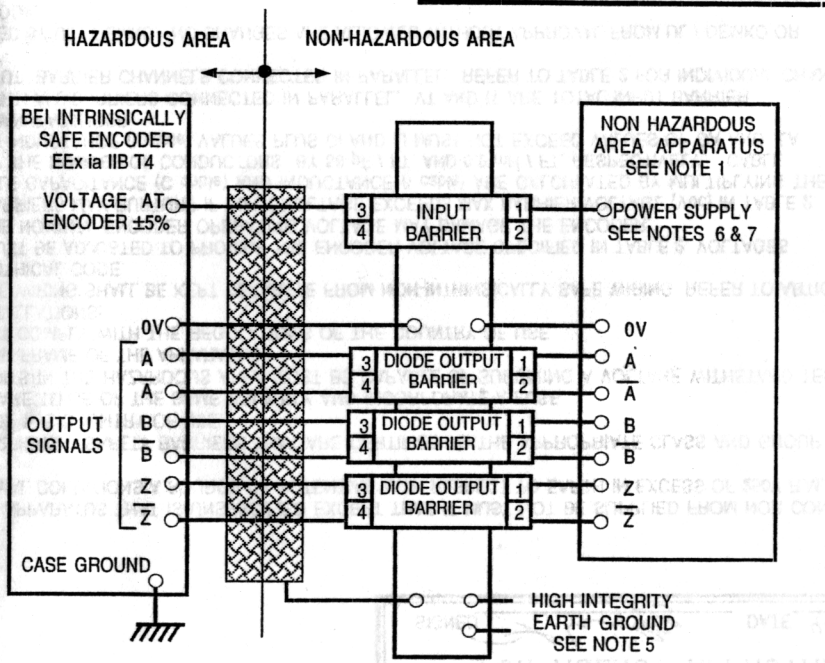
TABLE 2 ELECTRICAL SPECIFICATIONS

VOLTAGE SUPPLY AT ENCODER	+5 VDC ±5%
APPROX. POWER SUPPLY VOLTAGE TO BARRIER	11 VDC
INPUT BARRIER	Voc = 22VDC MAX Isc = 450 mA MAX
OUTPUT BARRIER	Voc = 28VDC MAX. Isc = 0 mA MAX. PER BARRIER CHANNEL
MAXIMUM CURRENT REQ'D BY ENCODER (OUTPUT IMPEDANCE)	140 mA (500 Ω)
TYPICAL CURRENT REQ'D BY ENCODER	120 mA
OUTPUT CURRENT FROM A OR $\overline{A}$	10 mA
OUTPUT CURRENT FROM B OR $\overline{B}$	10 mA
OUTPUT CURRENT FROM Z OR $\overline{Z}$	10 mA
CURRENT TAKEN BY NON- DRIVE CIRCUIT OF ENCODER	140 mA - 30 mA =110mA MAX 120 mA - 30 mA = 90 mA TYPICAL

BARRIER PARAMETERS

VT ≦ V MAX
IT ≦ I MAX
CA ≧ Ci + C cable
LA ≧ Li + L cable

SEE TABLE 1 AND NOTES 8 AND 9



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Unless otherwise specified:
Dimensions are in inches.
Tolerances:
XXX = .005
XX = ±.01

Industrial Encoder Division
BEI SENSORS AND SYSTEMS COMPANY
7230 Hollister Avenue • Goleta, CA 93117-2891 • Tel: (805) 968-0782 • Fax: (805) 968-3154

Material	Drawn	SYSTEM DIAGRAM, DIODE OUTPUT BARRIERS, INTRINSICALLY SAFE ENCODER TYPE 4469,	
	App'd		
Finish	Scale	Code Ident. No. 12050	Dwg. No. 924-08062-002 1/2 Rev. D

01061	09173
Next Assy	Used on

THIS IS A CONTROLLED DOCUMENT
FOR AGENCY APPROVAL

SIGNED _____ DATE 4-28-98

1. NON-HAZARDOUS AREA APPARATUS THAT IS UNSPECIFIED EXCEPT THAT IT MUST NOT BE SUPPLIED FROM NOR CONTAIN UNDER NORMAL OR ABNORMAL CONDITIONS A SOURCE OF POTENTIAL WITH RESPECT TO EARTH IN EXCESS OF 250V R.M.S. OR 250 V.D.C
2. INPUT AND OUTPUT BARRIERS: SAFETY BARRIERS THAT ARE CERTIFIED TO THE APPROPRIATE CLASS AND GROUP BY THE CERTIFICATION BODY OF THE COUNTRY OF USE.
3. ALL SAFETY BARRIERS ARE TO BE OF THE SAME POLARITY AND INCORPORATE A FUSE.
4. THE ELECTRICAL CIRCUITS IN THE HAZARDOUS AREA MUST BE CAPABLE OF SURVIVING A VOLTAGE WITHSTAND TEST OF 500V R.M.S. TO EARTH OR FRAME OF THE APPARATUS.
5. THE INSTALLATION MUST COMPLY WITH THE REGULATIONS OF THE COUNTRY OF USE.

5a NORTH AMERICAN INSTALLATIONS:
ALL INTRINSICALLY SAFE WIRING SHALL BE KEPT SEPARATE FROM NON-INTRINSICALLY SAFE WIRING. REFER TO ARTICLE 504 OF THE NATIONAL ELECTRICAL CODE.

6. THE POWER SOURCE MUST BE ADJUSTED TO PROVIDE THE ENCODER VOLTAGE SPECIFIED IN TABLE 2. VOLTAGES GREATER THAN 10% OF THE NOMINAL ENCODER OPERATING VOLTAGE MAY DAMAGE THE ENCODER.
7. FUSES IN THE ZENER BARRIERS MAY RUPTURE IF INPUT VOLTAGE EXCEEDS MAX BARRIER VOLTAGE (Voc) IN TABLE 2.
8. HAZARDOUS AREA CABLE CAPACITANCE (C cable) AND INDUCTANCE (I cable) ARE CALCULATED BY MULTIPLYING THE CABLE LENGTH (IN FEET) BY THE NUMBER OF CONDUCTORS BY 60 pF / FT. AND 0.2 mH / FT. RESPECTIVELY. CABLE CAPACITANCE (C cable) AND INDUCTANCE (I cable) VALUES PLUS Ci AND Li MUST NOT EXCEED VALUES OF CA AND LA DETERMINED BY BARRIER MANUFACTURER.
9. SYSTEM EVALUATED WITH ALL BARRIERS CONNECTED IN PARALLEL. VT AND IT ARE TOTAL INPUT BARRIER PARAMETERS, WITH ALL INPUT BARRIER CHANNELS CONNECTED IN PARALLEL. REFER TO TABLE 2 FOR INDIVIDUAL CHANNEL BARRIER SPECIFICATIONS.
10. THIS DESIGN IS CERTIFIED BY UL / DEMKO. NO CHANGES ARE ALLOWED WITHOUT APPROVAL FROM UL / DEMKO OR EQUIVALENT CERTIFYING BODY.
11. **WARNING**: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY. REPAIRS TO BE PERFORMED BY BEI ONLY.

BEI Industrial Encoder Division	
BEI SENSORS AND SYSTEMS COMPANY	
7230 Hollister Avenue • Goleta, CA 93117-2891 • Tel: (805) 968-0782 •	
MOD. NO.	
PART NO.	SER. NO. DATE
CUST. NO.	VDC IN

TYPICAL MODEL NUMBER:
H25D-1024-ABZC-4469-SM18-EX-S

SYMBOLS IN THESE AREAS MAY BE VARIED TO DENOTE STANDARD MECHANICAL VARIATONS.
THE "-S" IS USED TO DENOTE NON-STANDARD VARIATIONS.

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Unless otherwise specified:
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Tolerances:
XXX = .005
XX = ±.01

BEI Industrial Encoder Division
BEI SENSORS AND SYSTEMS COMPANY
7230 Hollister Avenue • Goleta, CA 93117-2891 • Tel: (805) 968-0782 • Fax: (805) 968-3154

Material	Drawn	SYSTEM DIAGRAM, DIODE OUTPUT BARRIERS, INTRINSICALLY SAFE ENCODER TYPE 4469,	
	App'd		
Finish	Scale	Code Ident. No. 12050	Dwg. No. 924-08062-002 2/2 Rev. D

01061	09173
Next Assy	Used on

MOHAWK

PARALLELOGRAM

50-26-S SURFACE MOUNT INSTALLATION REQUIREMENT DRAWINGS

MOHAWK RESOURCES LTD.

65 VROOMAN AVE.
AMSTERDAM, NY 12010
TOLL FREE: 1-800-833-2006
LOCAL: 1-518-842-1431
FAX: 1-518-842-1289
INTERNET: WWW.MOHAWKLIFTS.COM
E-MAIL: SERVICE@MOHAWKLIFTS.COM

INSERT 50-26-S
SURFACE INSTALLATION
DRAWINGS HERE

MOHAWK

PARALLELOGRAM

50-26-F FLUSH MOUNT INSTALLATION REQUIREMENT DRAWINGS

MOHAWK RESOURCES LTD.

65 VROOMAN AVE.
AMSTERDAM, NY 12010
TOLL FREE: 1-800-833-2006
LOCAL: 1-518-842-1431
FAX: 1-518-842-1289
INTERNET: WWW.MOHAWKLIFTS.COM
E-MAIL: SERVICE@MOHAWKLIFTS.COM

INSERT 50-26-F
SURFACE INSTALLATION
DRAWINGS HERE

MOHAWK

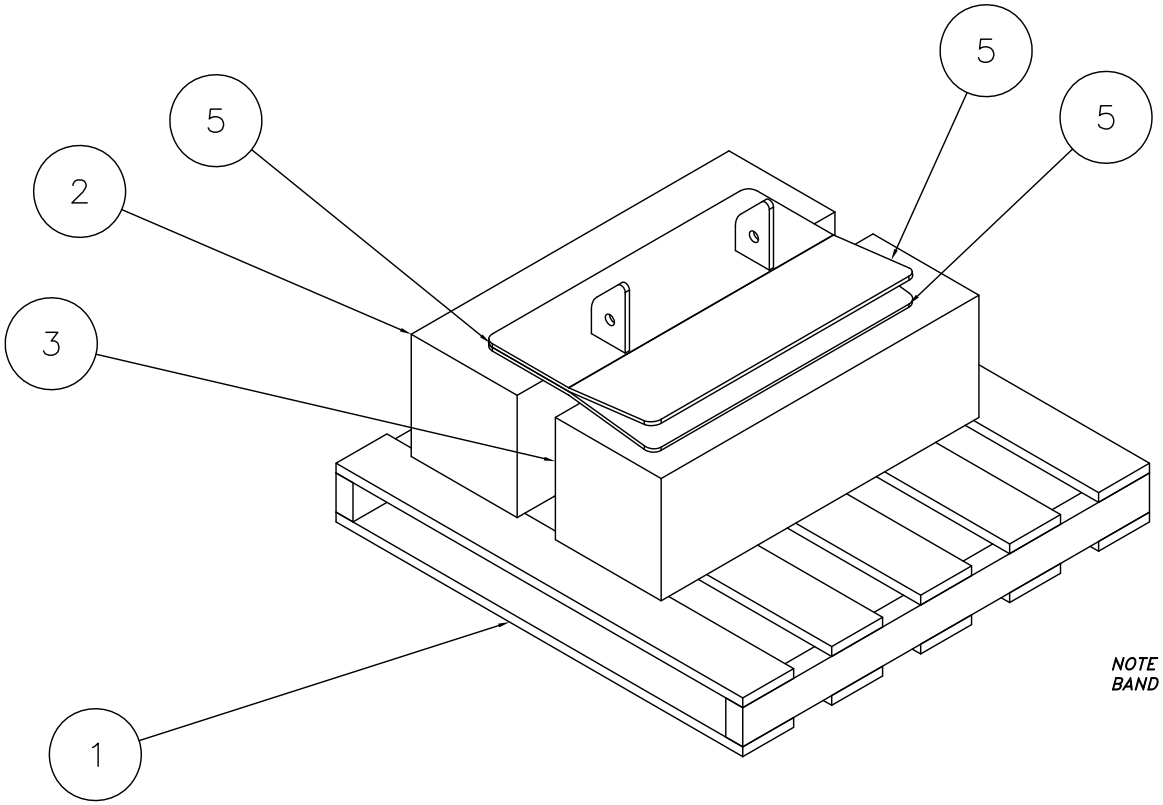
PARALLELOGRAM

PARTS
DRAWINGS

MOHAWK RESOURCES LTD.

65 VROOMAN AVE.
AMSTERDAM, NY 12010
TOLL FREE: 1-800-833-2006
LOCAL: 1-518-842-1431
FAX: 1-518-842-1289
INTERNET: WWW.MOHAWKLIFTS.COM
E-MAIL: SERVICE@MOHAWKLIFTS.COM

#	DESCRIPTION	DATE	APPROVED
A	1.) REMOVED ITEM 6 P-160-W-002 WHEEL STOP WELDMENT QTY - 2	05/07/2010	G.GORE
	2.) REMOVED ITEM 7 P-160-W-001 TRANS MOUNTING BRACKET WELDMENT QTY - 2		
	3.) ADDED "SURFACE" NOTE		



NOTE
BAND ITEMS 2 THRU 7 TO ITEM 1 WITH ITEMS 4 & 8.

A_3 *SURFACE*

A_2
A_1

ITEM	NAME	DESCRIPTION	QTY
8	601-600-019	Cardboard, 12 1/4 x 21 3/5, #31	2
7			0
6			0
5	P-160-W-004	Transition Plate Weldment	2
4	601-600-052	Banding, Polyester, Green, 5/8 x 16'	2
3	P-020-A-003	Parallelogram Parts Box #1	1
2	P-020-A-002	Parallelogram Parts Box #2	1
1	601-600-040	Pallet, Standard	1

Parts List

C-SIZE

NOTICE OF CONFIDENTIAL INFORMATION

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NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70TI CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1 °
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME *P-020-A-001*

P-

NEXT ASSEMBLY

SCALE *1/2* | DRAWN *dak*
CHECKED | APPROVED
DATE *7/30/03* | WEIGHT L.B.

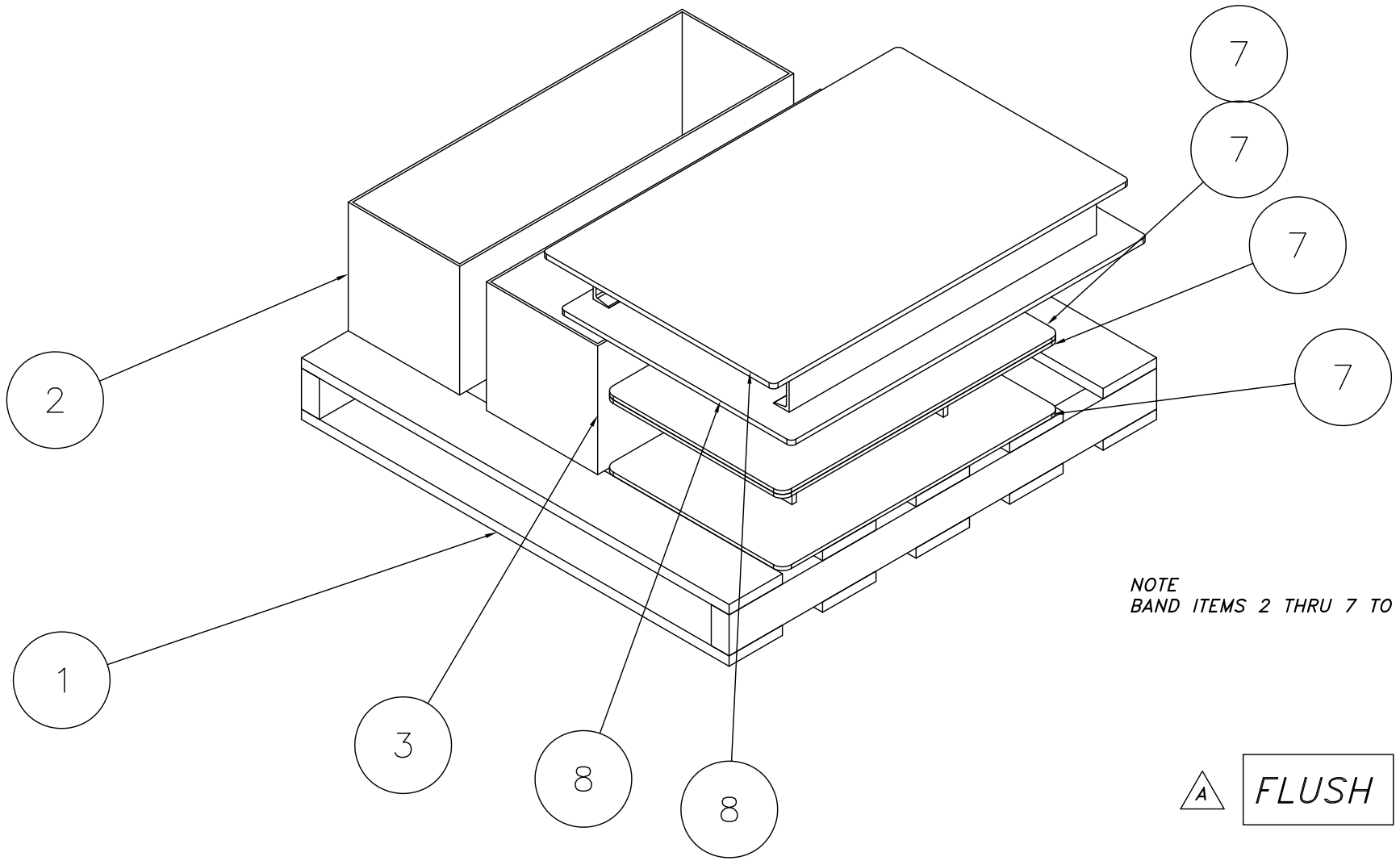
MOHAWK RESOURCES LTD.

TITLE *PARALLELOGRAM PARTS BOX/SKID PACKING ASSY*

FROM

DRAWING NUMBER *P-020-A-001* A

#	DESCRIPTION	DATE	APPROVED
A	REMOVED ITEM 5, P-160-W-001, TRANS MOUNTING BRACKET WELDMENT	05/07/2010	G.GORE
	ADDED "FLUSH" NOTE		
	ITEM 2 WAS P-1020-A-002		
	ITEM 3 WAS P-020-A-003		



NOTE
BAND ITEMS 2 THRU 7 TO ITEM 1 WITH ITEMS 4 & 8.

△A *FLUSH*

ITEM	NAME	DESCRIPTION	QTY	MATERIAL	VENDOR	NOTE	MASS	PRICE
8	P-160-W-003	Trench Cover Weldment	2				165.670	
7	P-160-W-005	Transition Plate Weldment (Flush)	4				72.000	
6	601-600-019	Cardboard, 12 1/4 x 21 3/5, #31	2					
△A 5			0				0.000	
4	601-600-052	Banding, Polyester, Green, 5/8 x 16'	2				0.001	
3	P-1020-A-003	Parallelogram Parts Box #1 Flush	1				0.000	
2	P-020-A-002	Parallelogram Parts Box #2	1				0.000	
1	601-600-040	Pallet, Standard	1				34.000	

Parts List

C-SIZE

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NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70TI CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME *P-1020-A-001*

P-

NEXT ASSEMBLY

SCALE *1/2*
DRAWN *dak*
CHECKED
APPROVED
DATE *7/30/03*
WEIGHT *816* LB.

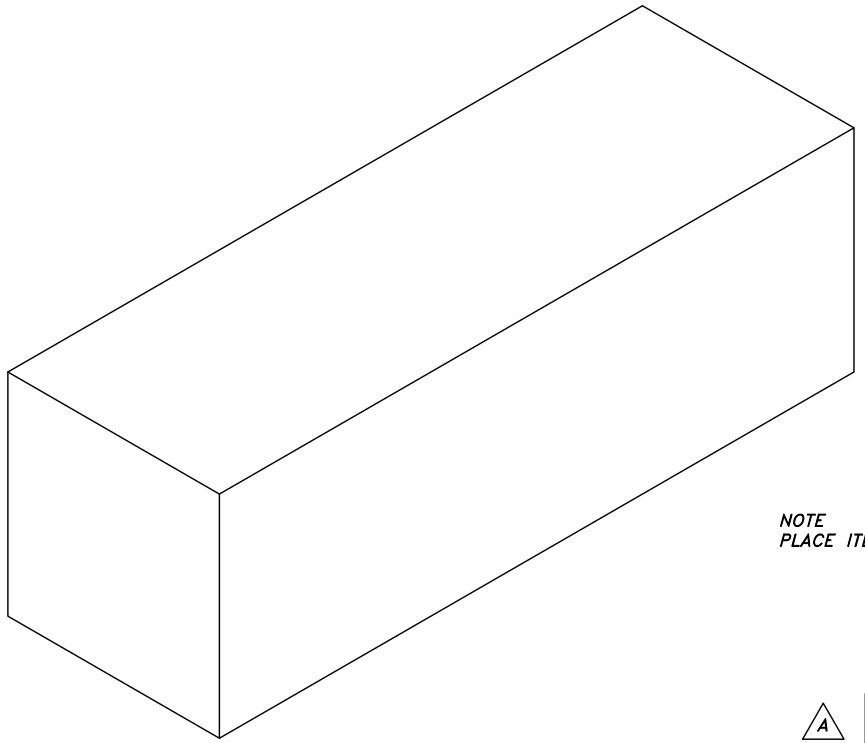
MOHAWK RESOURCES LTD.

TITLE *PARALLELOGRAM PARTS BOX/SKID PACKING ASS'Y*

FROM

DRAWING NUMBER *P-1020-A-001* △A

#	DESCRIPTION	DATE	APPROVED
A	REMOVED THE FOLLOWING ITEMS	05/11/10	G.GORE
	ITEM 4, P-160-P-001, TILT BAR, QTY - 2		
	ITEM 5, 600-710-010, WASHER, FLAT, 1", QTY - 4		
	ITEM 6, 600-890-006, COTTER PIN, 1/8 X 1 3/4, QTY - 4		
	ITEM 7, 600-930-001, WHEEL CHOCKS, RUBBER, QTY - 4		
	ADDED THE FOLLOWING		
	"SURFACE + FLUSH" NOTE		
	ADDED ITEM 4, HOSE ASS'Y, CONSOLE TO LIFT, 1/2 DIA X 40 FT. LG.		



NOTE
PLACE ITEMS 2 THRU 4 INTO ITEM 1

△A *SURFACE + FLUSH*

△A

ITEM	NAME	DESCRIPTION	QTY
7			0
6			0
5			0
4	P-140-A-008	HOSE ASS'Y, CONSOLE TO LIFT,1/2 DIA X 40 FT. LG.	2
3	P-150-P-012	Bracket Floor Service (Offset Slots)	2
2	P-150-P-013	Box, Floor Service	2
1	601-600-023	Carton, Top #1011, Bottom #1012, (275#, DW)	1

Parts List

C-SIZE

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NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70TI CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1.°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME *P-020-A-002*

P-

NEXT ASSEMBLY

SCALE *1/4* | DRAWN *dak*

CHECKED | APPROVED

DATE *7/29/03* | WEIGHT *62.18* LB.

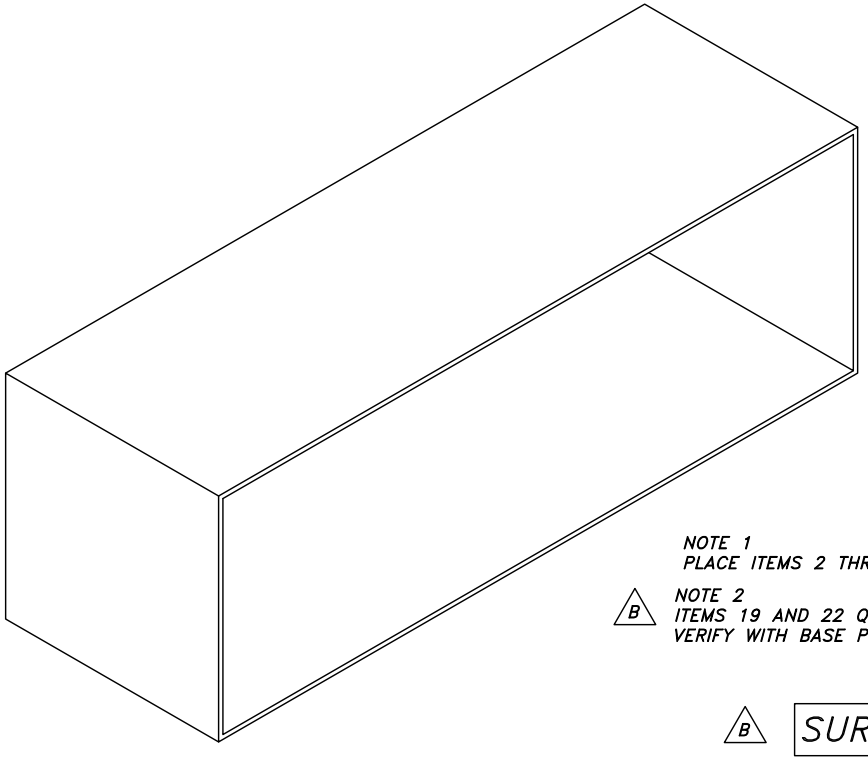
MOHAWK RESOURCES LTD.

TITLE *PARALLELOGRAM PARTS BOX #2*

FROM

DRAWING NUMBER *P-020-A-002* △A

#	DESCRIPTION	DATE	APPROVED
A	ITEM 22 (600-640-094) ADDED	06/23/2008	dak0879
B	REMOVED THE FOLLOWING	05/07/2010	G.GORE
	ITEM 12 601-630-002, PAINT, YELLOW, SPRAY, QTY-3		
	ITEM 14, 600-640-089, BOLT, 7/16 - 14 NC X 1 3/4, QTY - 32		
	ITEM 15, 600-710-005, WASHER, FLAT 7/16, QTY - 64		
	ITEM 16, 600-720-004, WASHER,LOCK, 7/16, QTY - 64		
	ITEM 17, 601-120-049, FUSE, CLASS CC, 10 AMP, FNQ-R, QTY - 2		
	ITEM 18, P-200-A-006,PARALLELOGRAM REED SWITCH TESTER, QTY - 1		
	ITEM 21, PARALLELOGRAM MANUAL ASSEMBLY, QTY - 1		
	ADDED THE FOLLOWING		
	ITEM 12, P-160-P-001, TILT BAR, QTY- 2		
	ITEM 14, 600-710-010, WASHER, FLAT, 1", QTY - 4		
	ITEM 15, 600-890-006, COTTER PIN, 1/8 X 1 3/4, QTY - 4		
	ITEM 16, WHEEL CHOCKS, RUBBER, QTY - 4		
	"FLUSH" NOTE, AND NOTE 2		



NOTE 1
PLACE ITEMS 2 THRU 22 INTO ITEM 1.

△B *NOTE 2*
ITEMS 19 AND 22 QUANTITIES MAY VARY WITH LIFT LENGTHS.
VERIFY WITH BASE PROVIDED WITH LIFT

△B SURFACE

BAG — 22

△B BAG — 16, 15, 14

BAG — 10, 9, 8, 7, 6, 5

ITEM	NAME	DESCRIPTION	QTY
22	600-640-094	Bolt, 3/4-10 NC x 3" Lg, Grd 5	8
21			0
20	P-020-A-005	Parallelogram Shim Bag	1
19	600-670-003	Anchor Bolt, 3/4 x 6" Lg, UNC Class 2A	44
18			0
17			0
16	600-930-001	Wheel Chocks, Rubber	4
15	600-890-006	Cotter Pin, 1/8 x 1 3/4	4
14	600-710-010	Washer, Flat, 1"	4
13	601-600-022	Bag, 9 x 12, Plastic, Transparent	3
12	P-160-P-001	Tilt Bar	2
11	601-630-001	Paint, Red, Spray	3
10	601-530-002	Coupler Plug to 3/8 NPTM	2
9	601-530-001	Coupler Sleeve to 3/8 NPTM	2
8	601-420-010	Fitting, 90 Deg Elbow, 3/8 NPTM to 3/8 NPTF (Street)	2
7	601-200-044	Fitting, 90 Deg Elbow, 8 JICM to 10 JICM	2
6	601-200-036	Fitting, Str, 3/8 Tube to Tube	2
5	601-200-041	Fitting, Str, 1/4 Tube to Tube	4
4	601-200-008	Air Hose, Blue, 3/8 (Transparent) x 100 Feet	2
3	601-200-006	Air Hose, Yellow, 1/4 (Transparent) x 100 Feet	2
2	601-200-001	Air Hose, Black, 1/4 (Opaque) x 100 Feet	2
1	601-600-023	Carton, Top #1011, Bottom #1012, (275#, DW)	1

Parts List

C-SIZE

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NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70TI CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1 °
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME P-020-A-003

P-

NEXT ASSEMBLY

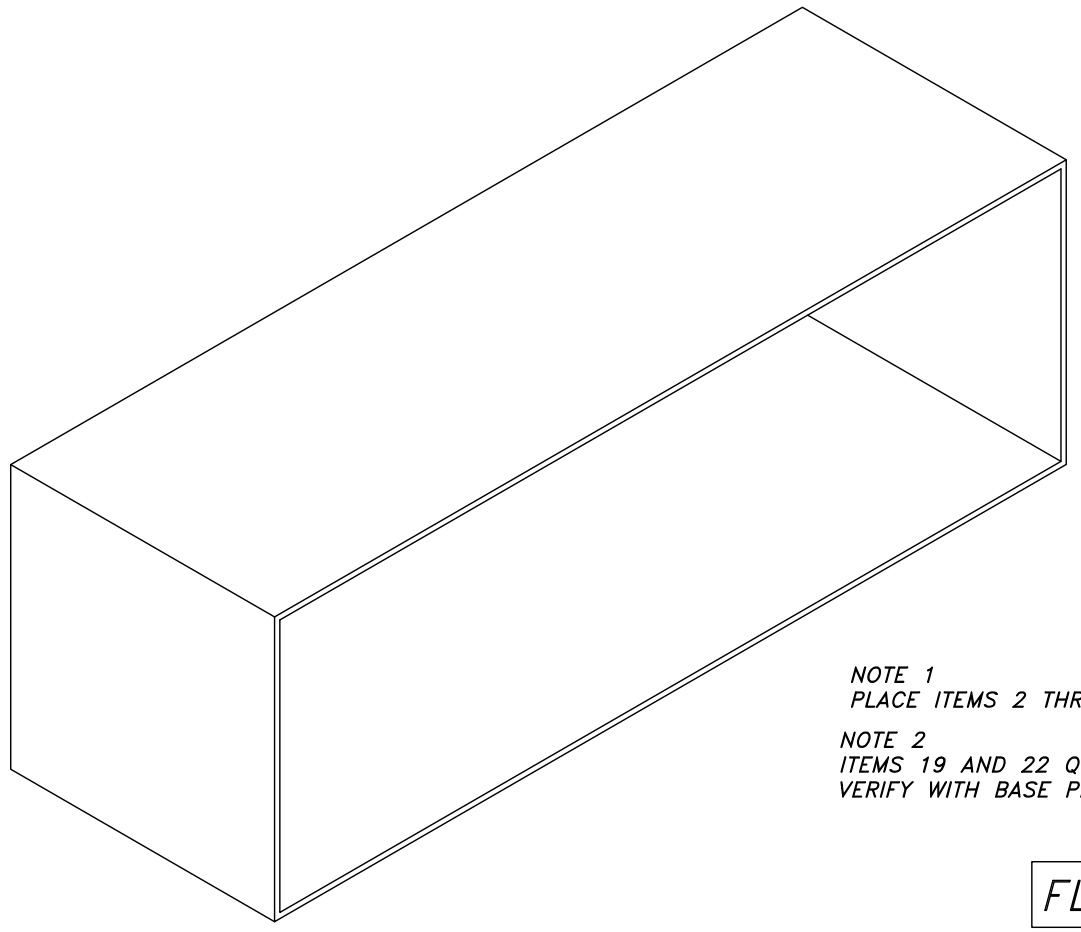
SCALE 1/4 | DRAWN dak | CHECKED | APPROVED | DATE 7/29/03 | WEIGHT 100 LB.

MOHAWK RESOURCES LTD.

TITLE *PARALLELOGRAM SURFACE PARTS BOX #1*

FROM

DRAWING NUMBER P-020-A-003 △B



NOTE 1
PLACE ITEMS 2 THRU 22 INTO ITEM 1.

NOTE 2
ITEMS 19 AND 22 QUANTITIES MAY VARY WITH LIFT LENGTHS.
VERIFY WITH BASE PROVIDED WITH LIFT

FLUSH

	ITEM	NAME	DESCRIPTION	QTY	MATERIAL	VENDOR	NOTE	MASS	PRICE
BAG	22	600-640-094	Bolt, 3/4-10 NC x 3" Lg, Grd 5	8				0.000	
	21			0					
	20	P-020-A-005	Parallelogram Shim Bag	1					
	19	600-670-003	Anchor Bolt, 3/4 x 6" Lg, UNC Class 2A	44					
	18			0					
	17			0					
BAG	16	600-930-001	Wheel Chocks, Rubber	4					
BAG	15	600-890-006	Cotter Pin, 1/8 x 1 3/4	8					
BAG	14	600-710-010	Washer, Flat, 1"	8					
	13	601-600-022	Bag, 9 x 12, Plastic, Transparent	3					
	12	P-160-P-001	Tilt Bar	4					
	11	601-630-001	Paint, Red, Spray	3					
BAG	10	601-530-002	Coupler Plug to 3/8 NPTM	2		Grainger #4x794			
BAG	9	601-530-001	Coupler Sleeve to 3/8 NPTM	2		Grainger #4x793			
BAG	8	601-420-010	Fitting, 90 Deg Elbow, 3/8 NPTM to 3/8 NPTF (Street)	2					
BAG	7	601-200-044	Fitting, 90 Deg Elbow, 8 JICM to 10 JICM	2		Pressure Connection #2500-10-08			
BAG	6	601-200-036	Fitting, Str, 3/8 Tube to Tube	2					
BAG	5	601-200-041	Fitting, Str, 1/4 Tube to Tube	4					
	4	601-200-008	Air Hose, Blue, 3/8 (Transparent) x 100 Feet	2					
	3	601-200-006	Air Hose, Yellow, 1/4 (Transparent) x 100 Feet	2					
	2	601-200-001	Air Hose, Black, 1/4 (Opaque) x 100 Feet	2					
	1	601-600-023	Carton, Top #1011, Bottom #1012, (275#, DW)	1			37 1/2 x 12 1/2 x 12 1/2	3.000	

Parts List

C-SIZE

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NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70TI CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME
P-1020-A-003

NEXT ASSEMBLY

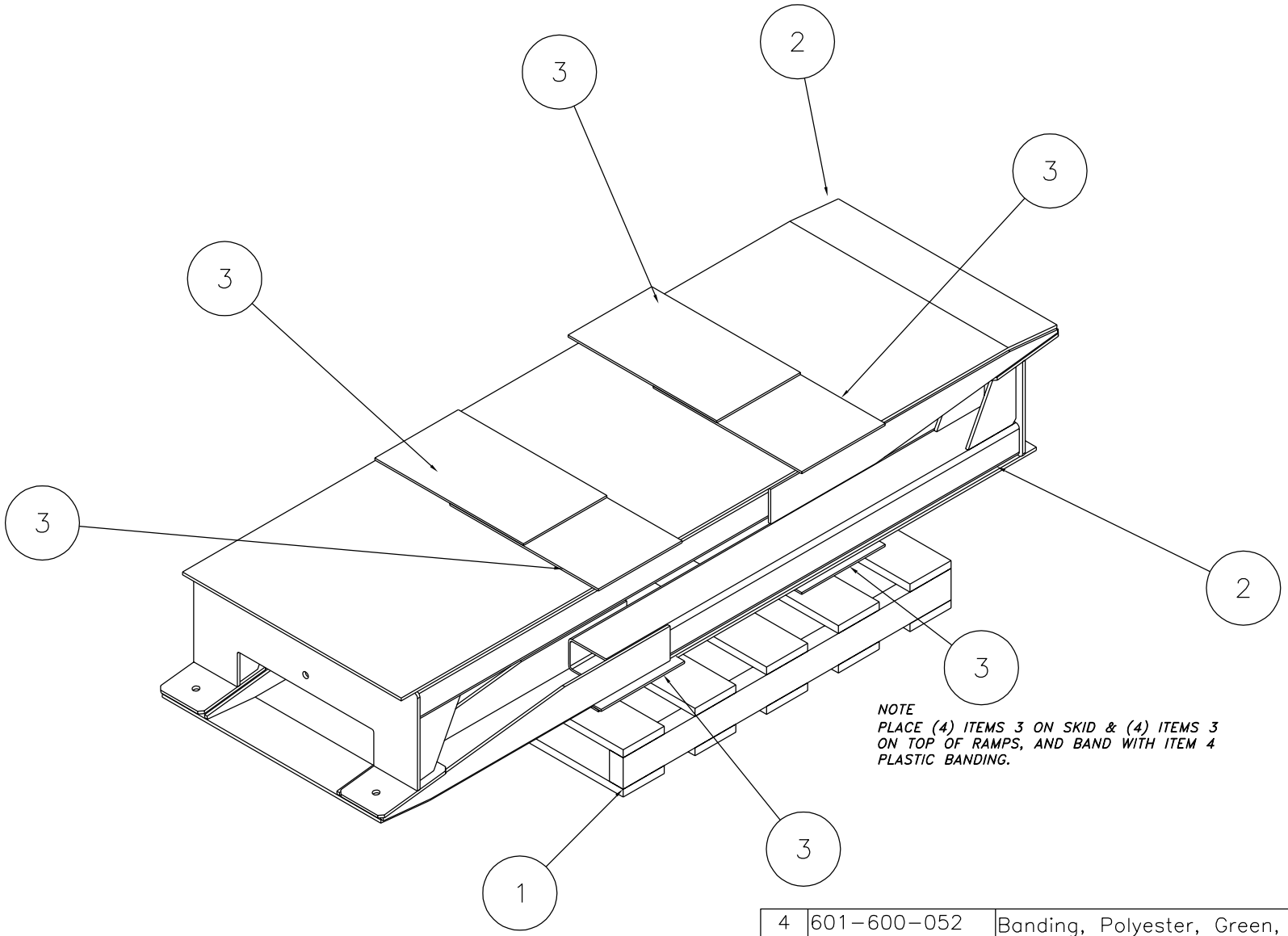
SCALE 1/4
DRAWN G.GORE
CHECKED
APPROVED
DATE 05/11/10
WEIGHT 100 LB.

MOHAWK RESOURCES LTD.

TITLE PARALLELOGRAM, FLUSH PARTS BOX #1

FROM

DRAWING NUMBER P-1020-A-003



NOTE
PLACE (4) ITEMS 3 ON SKID & (4) ITEMS 3 ON TOP OF RAMPS, AND BAND WITH ITEM 4 PLASTIC BANDING.

ITEM	NAME	DESCRIPTION	QTY
4	601-600-052	Banding, Polyester, Green, 5/8 x 12'	2
3	601-600-019	Cardboard Pad, #31, 12 1/4 x 21 3/4	8
2	P-100-W-001	8'-0" RAMP WELDMENT	2
1	601-600-040	Pallet, Standard	1

Parts List

C-SIZE

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NOTES:
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2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70T1 CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME P-020-A-004

P-

NEXT ASSEMBLY

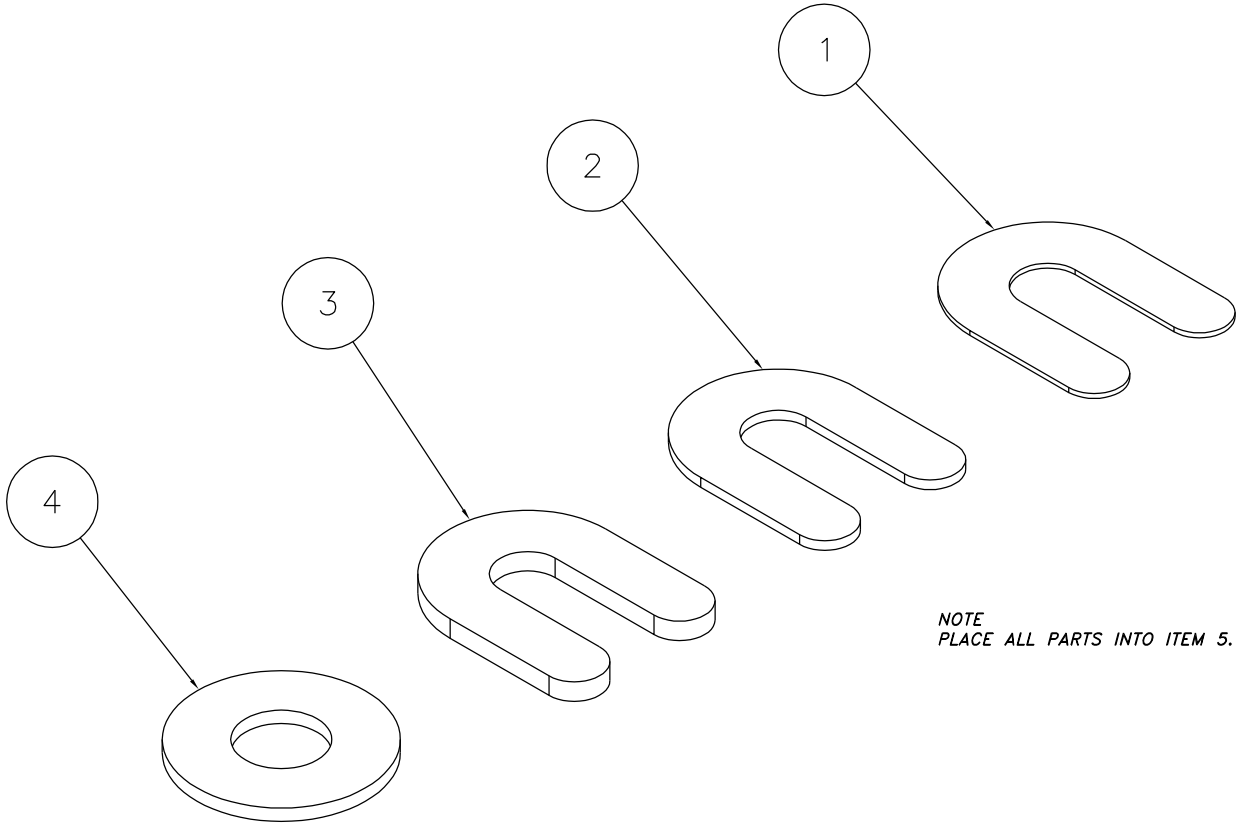
SCALE 1/8 | DRAWN dak | CHECKED | APPROVED | DATE 7/29/03 | WEIGHT 646 LB.

MOHAWK RESOURCES LTD.

TITLE PARALLELOGRAM RAMP WELDMENT PACKING

FROM

DRAWING NUMBER P-020-A-004



NOTE
PLACE ALL PARTS INTO ITEM 5.

ITEM	NAME	DESCRIPTION	QTY
5	601-600-022	Bag, 9" x 12", Plastic, Transparent	1
4	600-710-010	Washer, Flat, 1"	20
3	600-740-003	Shim, Horseshoe, Plastic, Black, 1/4"	10
2	600-740-002	Shim, Horseshoe, Plastic, Red, 1/8"	10
1	600-740-001	Shim, Horseshoe, Plastic, Blue, 1/16"	10

Parts List

C-SIZE

NOTICE OF CONFIDENTIAL INFORMATION

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NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70T1 CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME *P-020-A-005*

P-

NEXT ASSEMBLY

SCALE *FULL*
DRAWN *dak*
CHECKED
APPROVED
DATE *7/28/03*
WEIGHT *4.74* LB.

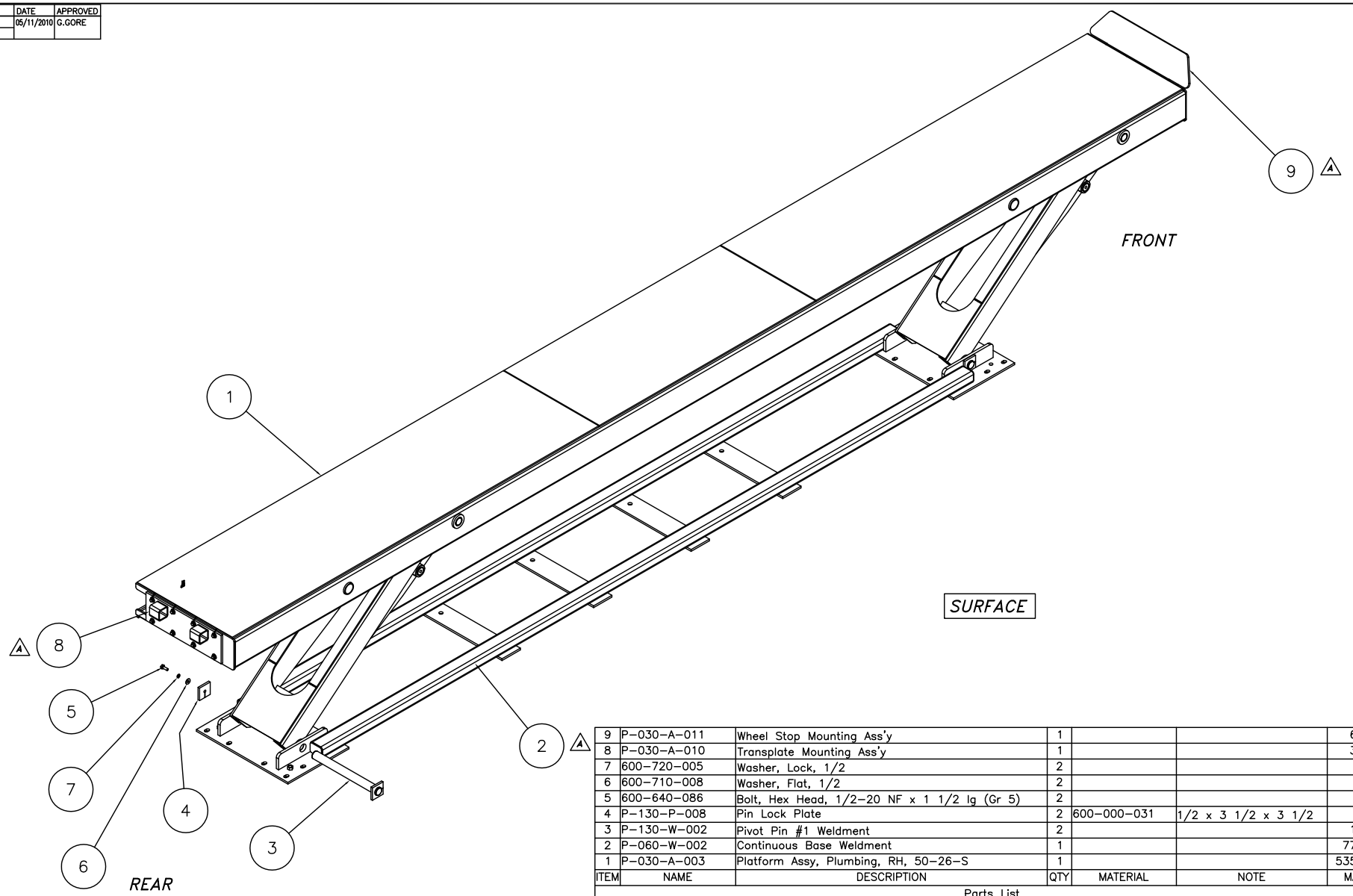
MOHAWK RESOURCES LTD.

TITLE *PARALLELOGRAM SHIM BAG*

FROM

DRAWING NUMBER *P-020-A-005*

#	DESCRIPTION	DATE	APPROVED
A	ADDED ITEMS 8 & 9	05/11/2010	G.GORE



ITEM	NAME	DESCRIPTION	QTY	MATERIAL	NOTE	MASS
9	P-030-A-011	Wheel Stop Mounting Ass'y	1			68.810
8	P-030-A-010	Transplate Mounting Ass'y	1			33.200
7	600-720-005	Washer, Lock, 1/2	2			0.010
6	600-710-008	Washer, Flat, 1/2	2			0.020
5	600-640-086	Bolt, Hex Head, 1/2-20 NF x 1 1/2 lg (Gr 5)	2			0.150
4	P-130-P-008	Pin Lock Plate	2	600-000-031	1/2 x 3 1/2 x 3 1/2	1.690
3	P-130-W-002	Pivot Pin #1 Weldment	2			19.900
2	P-060-W-002	Continuous Base Weldment	1			773.640
1	P-030-A-003	Platform Assy, Plumbing, RH, 50-26-S	1			5350.000

Parts List

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TOLERANCES:
ANGULAR ± 1.°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME: P-030-A-002

P-

NEXT ASSEMBLY

SCALE: 3/32
DRAWN: rwv7089
CHECKED
APPROVED
DATE: 7/2003
WEIGHT: 6237 LB.
FROM: n/a

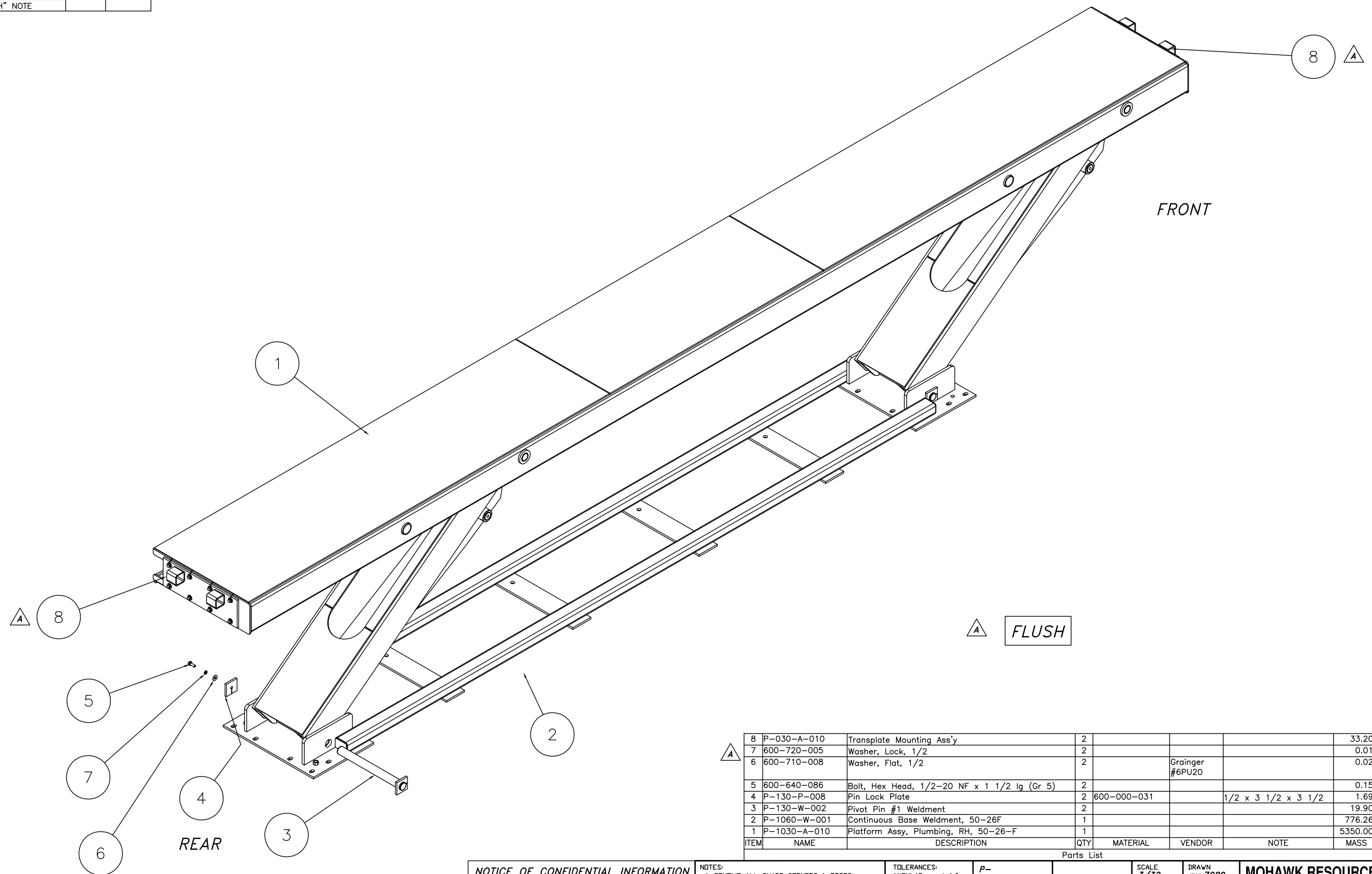
MOHAWK RESOURCES LTD.

TITLE: Parallelogram, RH, 50-26-S Platform to Base Assembly

DRAWING NUMBER: P-030-A-002 A

D-SIZE

#	DESCRIPTION	DATE	APPROVED
A	ADDED ITEM 8	05/12/2010	G.GORE
	ADDED "FLUSH" NOTE		



A FLUSH

ITEM	NAME	DESCRIPTION	QTY	MATERIAL	VENDOR	NOTE	MASS	PRICE
8	P-030-A-010	Transplate Mounting Ass'y	2				33.200	
7	600-720-005	Washer, Lock, 1/2	2				0.010	
6	600-710-008	Washer, Flat, 1/2	2		Grainger #6PU20		0.020	
5	600-640-086	Bolt, Hex Head, 1/2-20 NF x 1 1/2 lg (Gr 5)	2				0.150	
4	P-130-P-008	Pin Lock Plate	2	600-000-031		1/2 x 3 1/2 x 3 1/2	1.690	
3	P-130-W-002	Pivot Pin #1 Weldment	2				19.900	
2	P-1060-W-001	Continuous Base Weldment, 50-26F	1				776.260	
1	P-1030-A-010	Platform Assy, Plumbing, RH, 50-26-F	1				5350.000	

Parts List

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TOLERANCES:
ANGULAR ± 1 °
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME P-1030-A-012

P-

NEXT ASSEMBLY

SCALE 3/32 | DRAWN rwv7089 | CHECKED | APPROVED

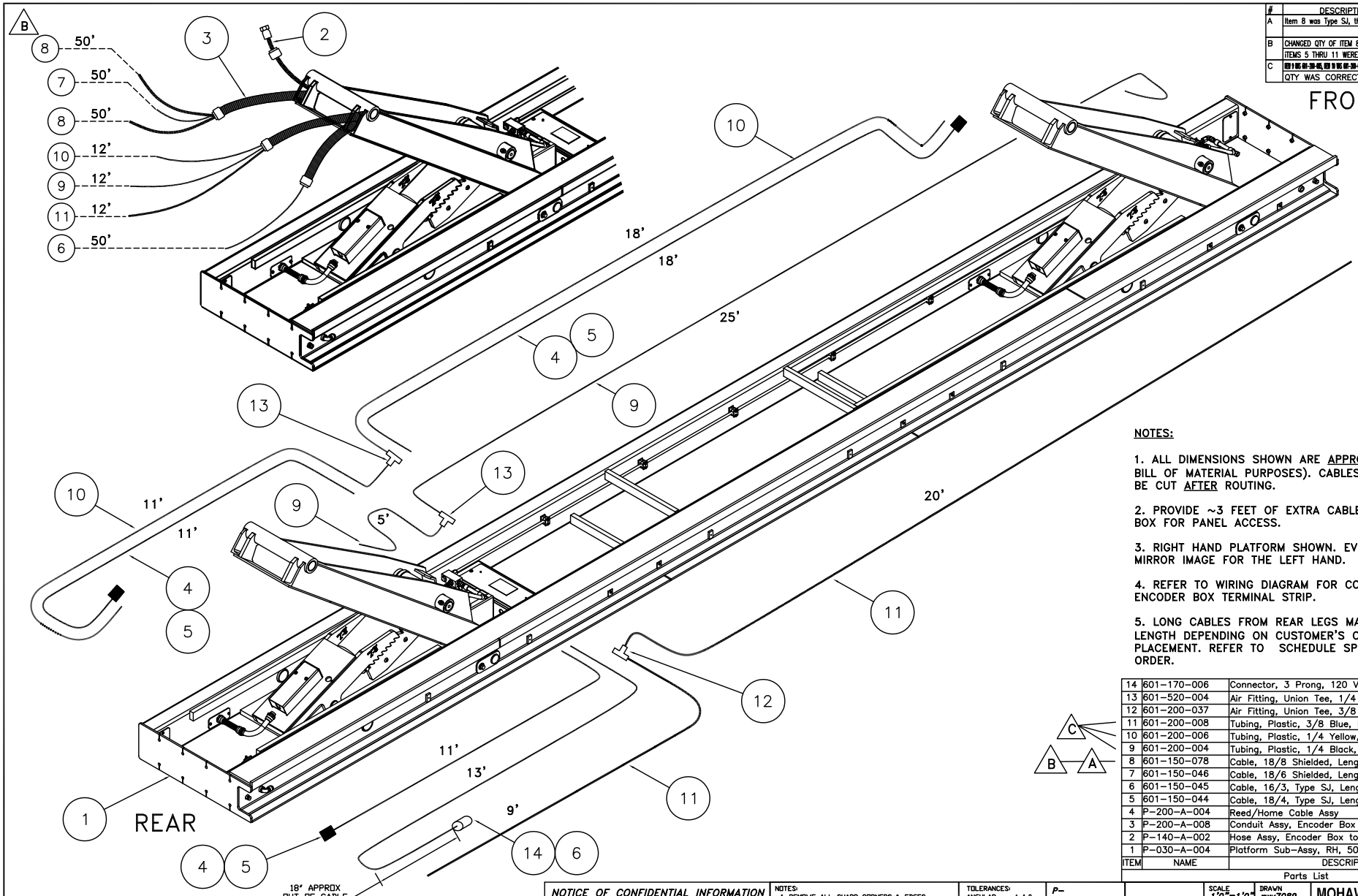
DATE 3/08/05 | WEIGHT 6666 LB. | FROM n/a

MOHAWK RESOURCES LTD.

TITLE *Parallelogram, RH, 50-26-F Platform to Base Assembly*

DRAWING NUMBER P-1030-A-012 A

D-SIZE



#	DESCRIPTION	DATE	APPROVED
A	Item 8 was Type SJ, then CAT5 cable	06/21/2005	rwv7089
B	CHANGED QTY OF ITEM 8 FROM 1 TO 2	05/12/2010	G.GORE
	ITEMS 5 THRU 11 WERE 400 NUMBERS		
C	[redacted]	07/26/2010	G.GORE
	QTY WAS CORRECTED		

NOTES:

1. ALL DIMENSIONS SHOWN ARE APPROXIMATE (FOR BILL OF MATERIAL PURPOSES). CABLES AND TUBING TO BE CUT AFTER ROUTING.

2. PROVIDE ~3 FEET OF EXTRA CABLE IN ENCODER BOX FOR PANEL ACCESS.

3. RIGHT HAND PLATFORM SHOWN. EVERYTHING IS A MIRROR IMAGE FOR THE LEFT HAND.

4. REFER TO WIRING DIAGRAM FOR CONNECTIONS ON ENCODER BOX TERMINAL STRIP.

5. LONG CABLES FROM REAR LEGS MAY BE DIFFERENT LENGTH DEPENDING ON CUSTOMER'S CONSOLE PLACEMENT. REFER TO SCHEDULE SPECIFICS ON LIFT ORDER.

ITEM	NAME	DESCRIPTION	QTY
14	601-170-006	Connector, 3 Prong, 120 VAC, 1 Ph	1
13	601-520-004	Air Fitting, Union Tee, 1/4 Tube	2
12	601-200-037	Air Fitting, Union Tee, 3/8 Tube	1
11	601-200-008	Tubing, Plastic, 3/8 Blue, Length = Feet	41
10	601-200-006	Tubing, Plastic, 1/4 Yellow, Length = Feet	41
9	601-200-004	Tubing, Plastic, 1/4 Black, Length = Feet	52
8	601-150-078	Cable, 18/8 Shielded, Length = Feet	100
7	601-150-046	Cable, 18/6 Shielded, Length = Feet	50
6	601-150-045	Cable, 16/3, Type SJ, Length = Feet	63
5	601-150-044	Cable, 18/4, Type SJ, Length = Feet	40
4	P-200-A-004	Reed/Home Cable Assy	3
3	P-200-A-008	Conduit Assy, Encoder Box to Floor, Surf	3
2	P-140-A-002	Hose Assy, Encoder Box to Floor, Surf	1
1	P-030-A-004	Platform Sub-Assy, RH, 50-26-S	1

Parts List

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TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
.0XX ± .030
.0XXX ± .005

FILE NAME P-030-A-003

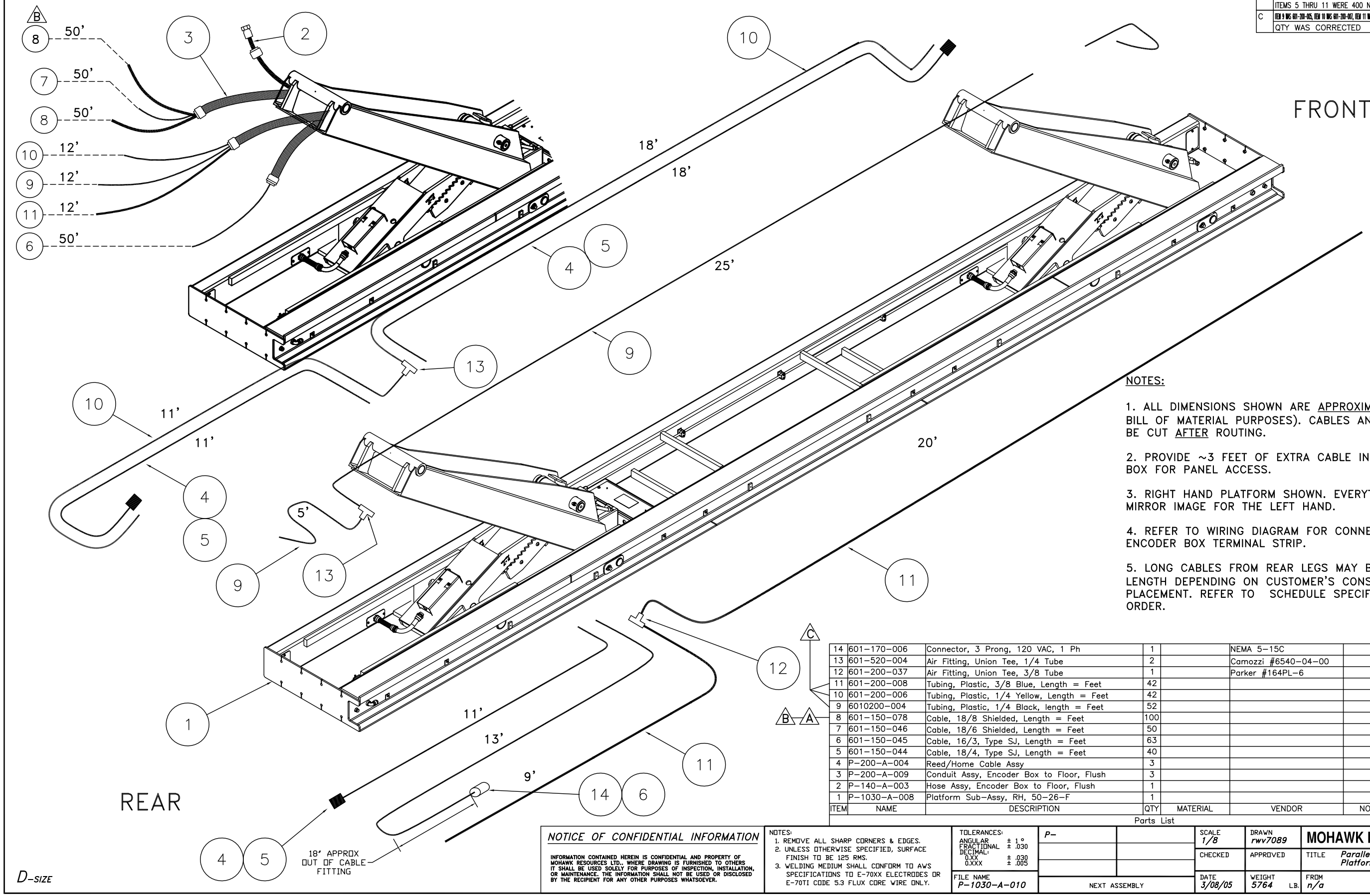
P-

NEXT ASSEMBLY

SCALE 1'0"=1'0" | DRAWN rwv7089 | MOHAWK RESOURCES LTD.
CHECKED | APPROVED | TITLE Parallelogram, 50-26-S Platform Assy (Plumbing) RH
DATE 7/2003 | WEIGHT 5364 LB. | FROM n/a | DRAWING NUMBER P-030-A-003 | C

D-SIZE

#	DESCRIPTION	DATE	APPROVED
A	Item 8 was Type SJ, then CAT5 cable	06/28/2005	dak0879
B	CHANGED QTY OF ITEM 8 FROM 1 TO 2 ITEMS 5 THRU 11 WERE 400 NUMBERS	05/12/2010	G.GORE
C	ITEM 9 WAS 601-200-005, ITEM 10 WAS 601-200-007, ITEM 11 WAS 601-200-009 QTY WAS CORRECTED	07/27/2010	G.GORE



NOTES:

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2. PROVIDE ~3 FEET OF EXTRA CABLE IN ENCODER BOX FOR PANEL ACCESS.

3. RIGHT HAND PLATFORM SHOWN. EVERYTHING IS A MIRROR IMAGE FOR THE LEFT HAND.

4. REFER TO WIRING DIAGRAM FOR CONNECTIONS ON ENCODER BOX TERMINAL STRIP.

5. LONG CABLES FROM REAR LEGS MAY BE DIFFERENT LENGTH DEPENDING ON CUSTOMER'S CONSOLE PLACEMENT. REFER TO SCHEDULE SPECIFICS ON LIFT ORDER.

ITEM	NAME	DESCRIPTION	QTY	MATERIAL	VENDOR	NOTE	MASS	PRICE
14	601-170-006	Connector, 3 Prong, 120 VAC, 1 Ph	1		NEMA 5-15C			
13	601-520-004	Air Fitting, Union Tee, 1/4 Tube	2		Camozzi #6540-04-00			
12	601-200-037	Air Fitting, Union Tee, 3/8 Tube	1		Parker #164PL-6			
11	601-200-008	Tubing, Plastic, 3/8 Blue, Length = Feet	42					
10	601-200-006	Tubing, Plastic, 1/4 Yellow, Length = Feet	42					
9	6010200-004	Tubing, Plastic, 1/4 Black, length = Feet	52					
8	601-150-078	Cable, 18/8 Shielded, Length = Feet	100					
7	601-150-046	Cable, 18/6 Shielded, Length = Feet	50					
6	601-150-045	Cable, 16/3, Type SJ, Length = Feet	63					
5	601-150-044	Cable, 18/4, Type SJ, Length = Feet	40					
4	P-200-A-004	Reed/Home Cable Assy	3					
3	P-200-A-009	Conduit Assy, Encoder Box to Floor, Flush	3					
2	P-140-A-003	Hose Assy, Encoder Box to Floor, Flush	1					
1	P-1030-A-008	Platform Sub-Assy, RH, 50-26-F	1					

Parts List

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TOLERANCES:
ANGULAR ± 1.0
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME *P-1030-A-010*

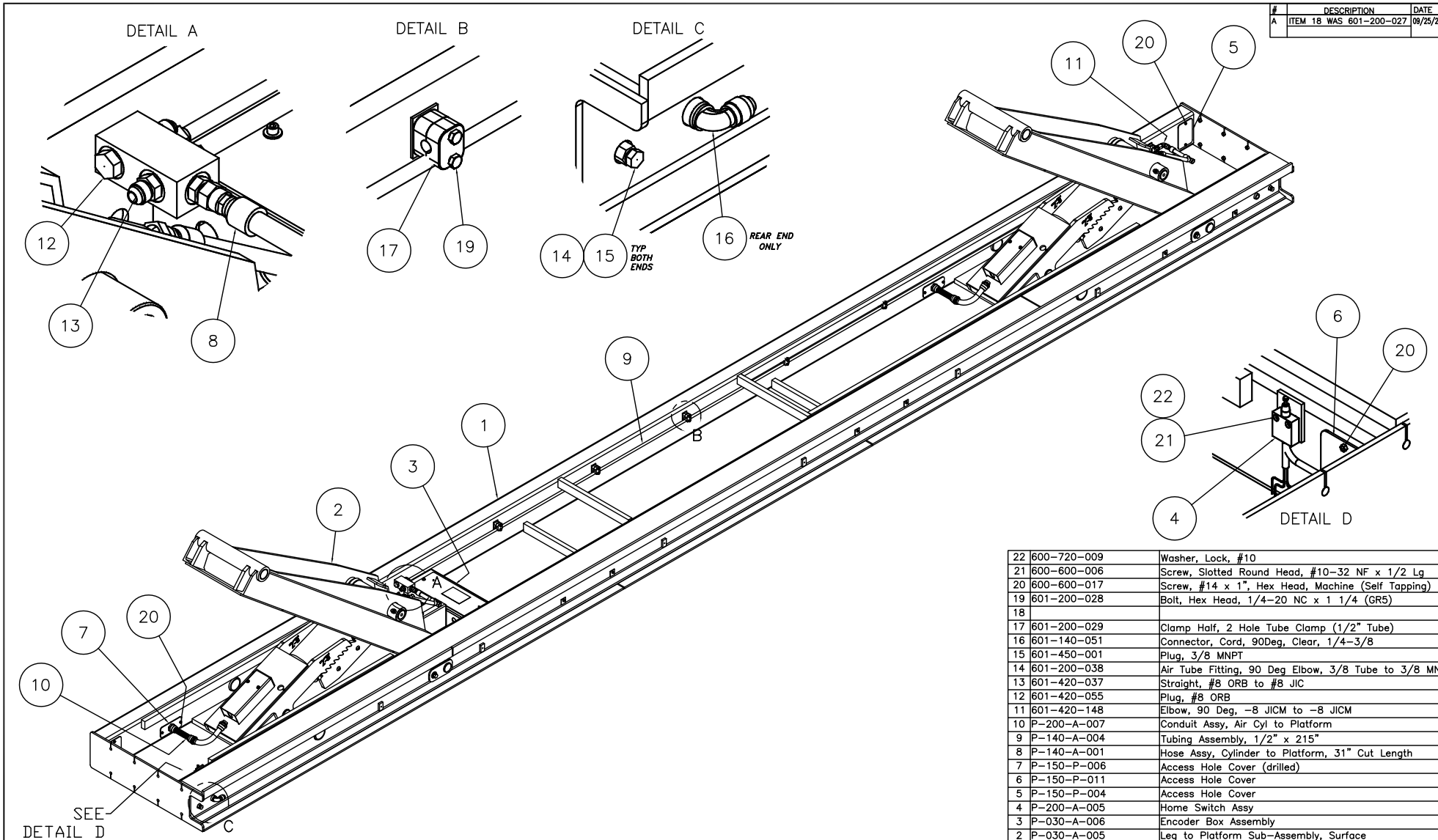
P-

NEXT ASSEMBLY

SCALE *1/8*	DRAWN *rwv7089*	**MOHAWK RESOURCES LTD.**	
CHECKED	APPROVED	TITLE *Parallelogram, 50-26-F Platform Assy (Plumbing) RH*	
DATE *3/08/05*	WEIGHT *5764* LB.	FROM *n/a*	DRAWING NUMBER *P-1030-A-010* C

D-SIZE

#	DESCRIPTION	DATE	APPROVED
A	ITEM 18 WAS 601-200-027	09/25/2008	dak0879



ITEM	NAME	DESCRIPTION	QTY
22	600-720-009	Washer, Lock, #10	2
21	600-600-006	Screw, Slotted Round Head, #10-32 NF x 1/2 Lg	2
20	600-600-017	Screw, #14 x 1", Hex Head, Machine (Self Tapping)	12
19	601-200-028	Bolt, Hex Head, 1/4-20 NC x 1 1/4 (GR5)	12
18			0
17	601-200-029	Clamp Half, 2 Hole Tube Clamp (1/2" Tube)	12
16	601-140-051	Connector, Cord, 90Deg, Clear, 1/4-3/8	1
15	601-450-001	Plug, 3/8 MNPT	2
14	601-200-038	Air Tube Fitting, 90 Deg Elbow, 3/8 Tube to 3/8 MNPT	2
13	601-420-037	Straight, #8 ORB to #8 JIC	3
12	601-420-055	Plug, #8 ORB	2
11	601-420-148	Elbow, 90 Deg, -8 JICM to -8 JICM	1
10	P-200-A-007	Conduit Assy, Air Cyl to Platform	2
9	P-140-A-004	Tubing Assembly, 1/2" x 215"	1
8	P-140-A-001	Hose Assy, Cylinder to Platform, 31" Cut Length	2
7	P-150-P-006	Access Hole Cover (drilled)	2
6	P-150-P-011	Access Hole Cover	1
5	P-150-P-004	Access Hole Cover	3
4	P-200-A-005	Home Switch Assy	1
3	P-030-A-006	Encoder Box Assembly	1
2	P-030-A-005	Leg to Platform Sub-Assembly, Surface	2
1	P-040-W-002	Platform Secondary Weldment, RH, 50-26-S	1

Parts List

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TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
.XX ± .030
.XXX ± .005

FILE NAME: P-030-A-004

P-030-A-003

NEXT ASSEMBLY

SCALE: NONE
DRAWN: rwv7089
CHECKED
APPROVED
DATE: 7/2003
WEIGHT: 5300 LB.
FROM: n/a

MOHAWK RESOURCES LTD.

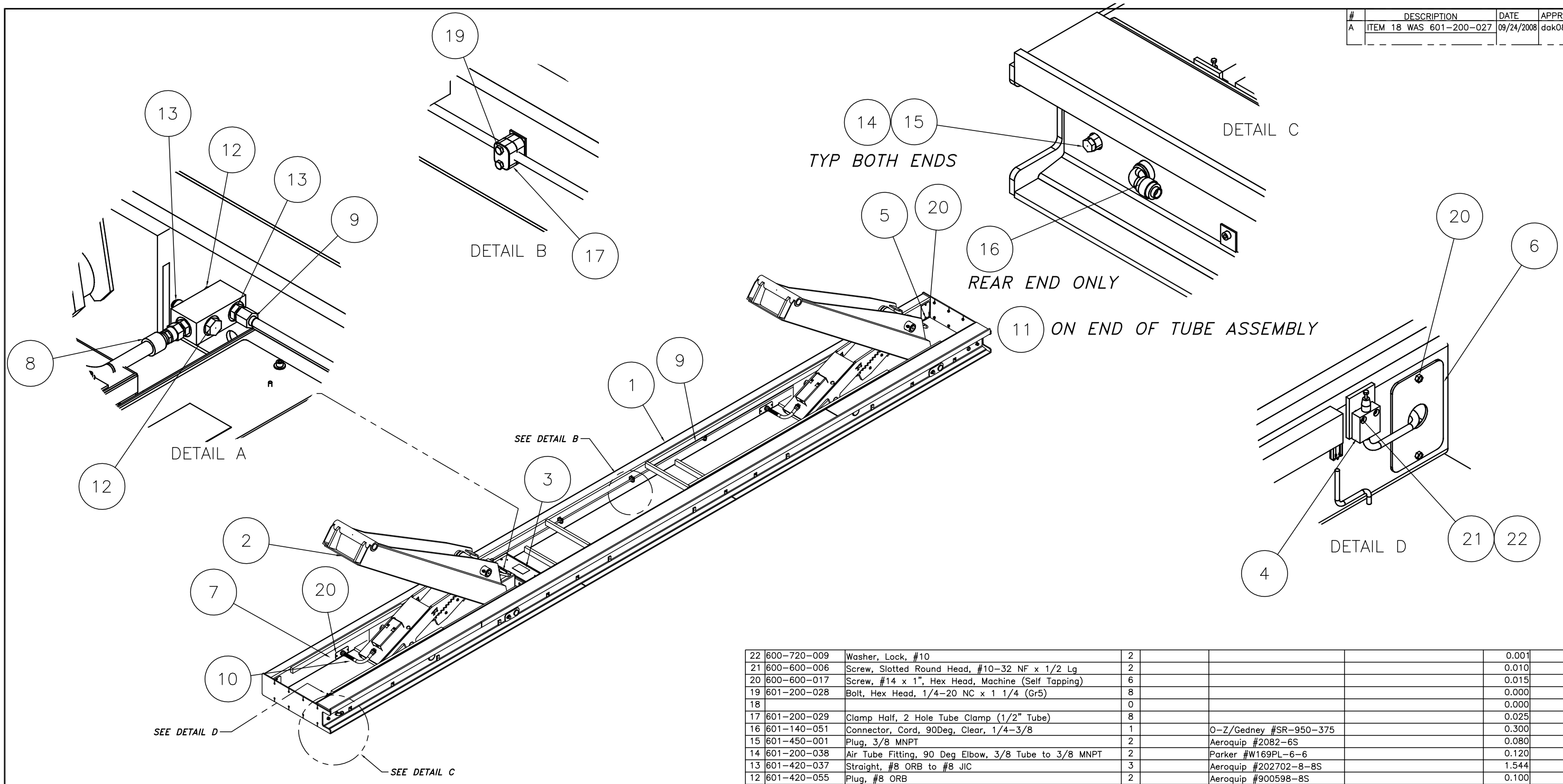
TITLE: Parallelogram, 50-26-S Platform Sub-Assembly, RH

DRAWING NUMBER: P-030-A-004

A

D-SIZE

#	DESCRIPTION	DATE	APPROVED
A	ITEM 18 WAS 601-200-027	09/24/2008	dak0879



ITEM	NAME	DESCRIPTION	QTY	MATERIAL	VENDOR	NOTE	MASS	PRICE
22	600-720-009	Washer, Lock, #10	2				0.001	
21	600-600-006	Screw, Slotted Round Head, #10-32 NF x 1/2 Lg	2				0.010	
20	600-600-017	Screw, #14 x 1", Hex Head, Machine (Self Tapping)	6				0.015	
19	601-200-028	Bolt, Hex Head, 1/4-20 NC x 1 1/4 (Gr5)	8				0.000	
18			0				0.000	
17	601-200-029	Clamp Half, 2 Hole Tube Clamp (1/2" Tube)	8				0.025	
16	601-140-051	Connector, Cord, 90Deg, Clear, 1/4-3/8	1		O-Z/Gedney #SR-950-375		0.300	
15	601-450-001	Plug, 3/8 MNPT	2		Aeroquip #2082-6S		0.080	
14	601-200-038	Air Tube Fitting, 90 Deg Elbow, 3/8 Tube to 3/8 MNPT	2		Parker #W169PL-6-6		0.120	
13	601-420-037	Straight, #8 ORB to #8 JIC	3		Aeroquip #202702-8-8S		1.544	
12	601-420-055	Plug, #8 ORB	2		Aeroquip #900598-8S		0.100	
11	601-420-148	Elbow, 90 Deg, -8 JICM to -8 JICM	1		Aeroquip #2039-8-8S		0.760	
10	P-200-A-007	Conduit Assy, Air Cyl to Platform	1					
9	P-140-A-005	Tubing Assembly, 1/2" x 197"	1				5.600	
8	P-140-A-001	Hose Assy, Cylinder to Platform, 31" Cut Length	2				0.850	
7	P-150-P-006	Access Hole Cover (drilled)	1	600-030-008		10 Ga (.1345) x 2 1/2 x 6"	0.520	
6	P-150-P-011	Access Hole Cover	1	600-030-008		10 Ga (.1345) x 4" x 6"	0.830	
5	P-150-P-004	Access Hole Cover	1	600-030-008		10ga x 3 1/4" x 6"	0.730	
4	P-200-A-005	Home Switch Assy	1				0.750	
3	P-030-A-006	Encoder Box Assembly	1				13.724	0.00
2	P-1030-A-005	Leg to Platform Sub-Assembly, Flush	2				1092.140	0.00
1	P-1040-W-001	Platform Secondary Weldment, RH, 50-26-F	1				2812.170	0.00

Parts List

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TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME *P-1030-A-008*

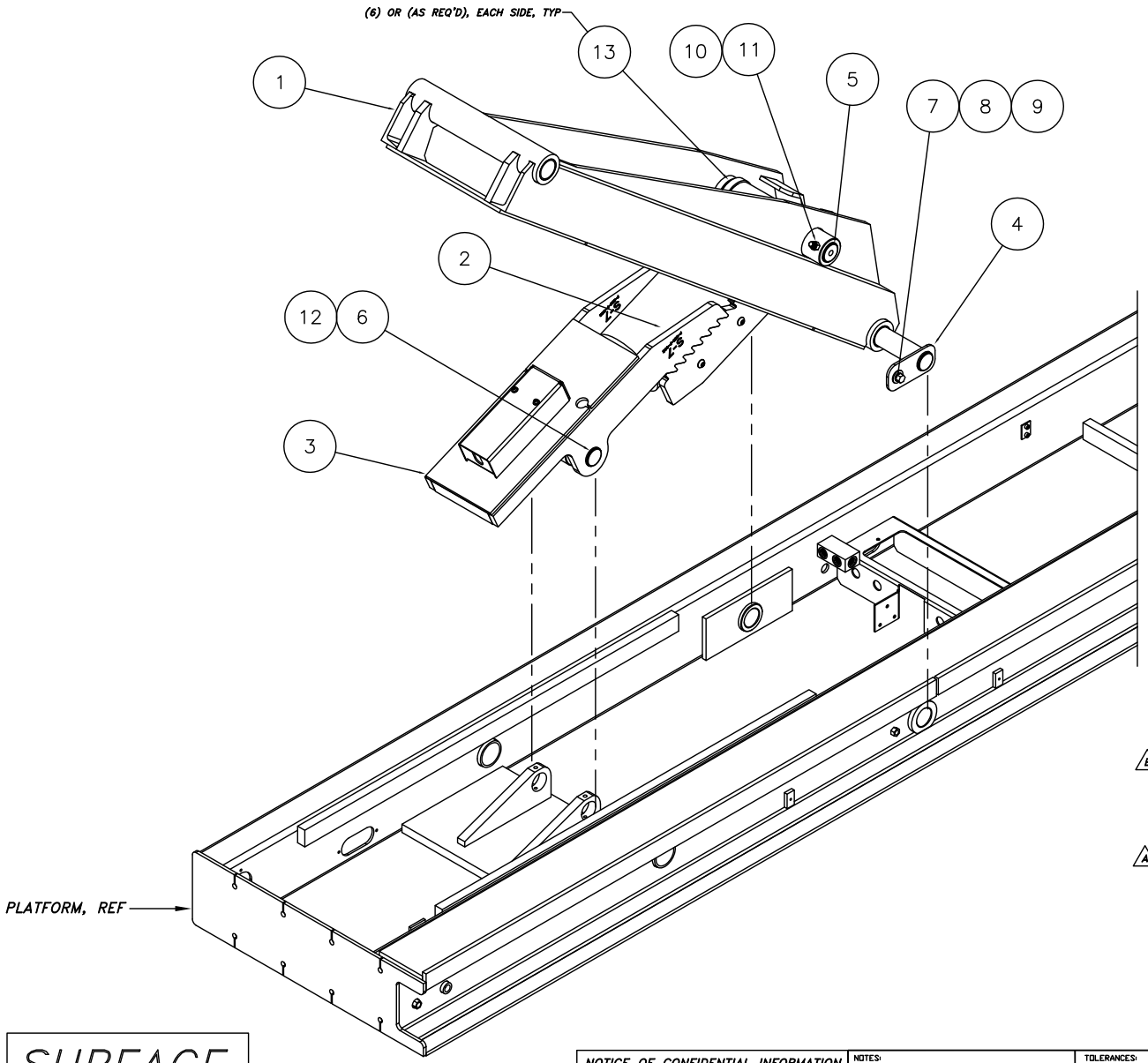
P-1030-A-

NEXT ASSEMBLY

SCALE *NONE*	DRAWN *rwv7089*	**MOHAWK RESOURCES LTD.**	
CHECKED	APPROVED	TITLE *Parallelogram, 50-26-F Platform Sub-Assembly, RH*	
DATE *3/07/05*	WEIGHT *5750* LB.	FROM *n/a*	DRAWING NUMBER *P-1030-A-008* A

D-SIZE

#	DESCRIPTION	DATE	APPROVED
A	ITEM 9 WAS 600-640-088	08/18/2003	dak0879
B	ITEM 13 WAS P-130-P-001	12/05/2008	dak0879



TYPICAL ALL LEG LOCATIONS
(MIRROR VIEW FOR OPPOSITE PLATFORM)

ITEM	NAME	DESCRIPTION	QTY
B 13	007-007-143	Washer (Donut)	12
12	600-650-009	Screw, 3/8-16 NC x 3", Socket Head	2
11	600-690-009	Nut, Nylon Lock, 1/2-13 NC	1
10	600-640-044	Bolt, Hex Head, 1/2-13 NC x 4" (GR5)	1
9	600-640-090	Bolt, Hex Head, 1/2-13 NC x 3/4" (GR5)	1
A 8	600-720-005	Washer, Lock, 1/2	1
7	600-710-008	Washer, Flat, 1/2	1
6	P-130-P-006	Pivot Pin #4	1
5	P-130-P-005	Pivot Pin #3	1
4	P-130-W-001	Pivot Pin #2 Weldment	1
3	P-080-A-003	Lower Lock Assembly, Surface	1
2	P-080-A-001	Cylinder/Upper Lock Assembly (Surface)	1
1	P-090-A-001	Leg Assembly, SURFACE	1

Parts List

SURFACE

D-SIZE

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TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

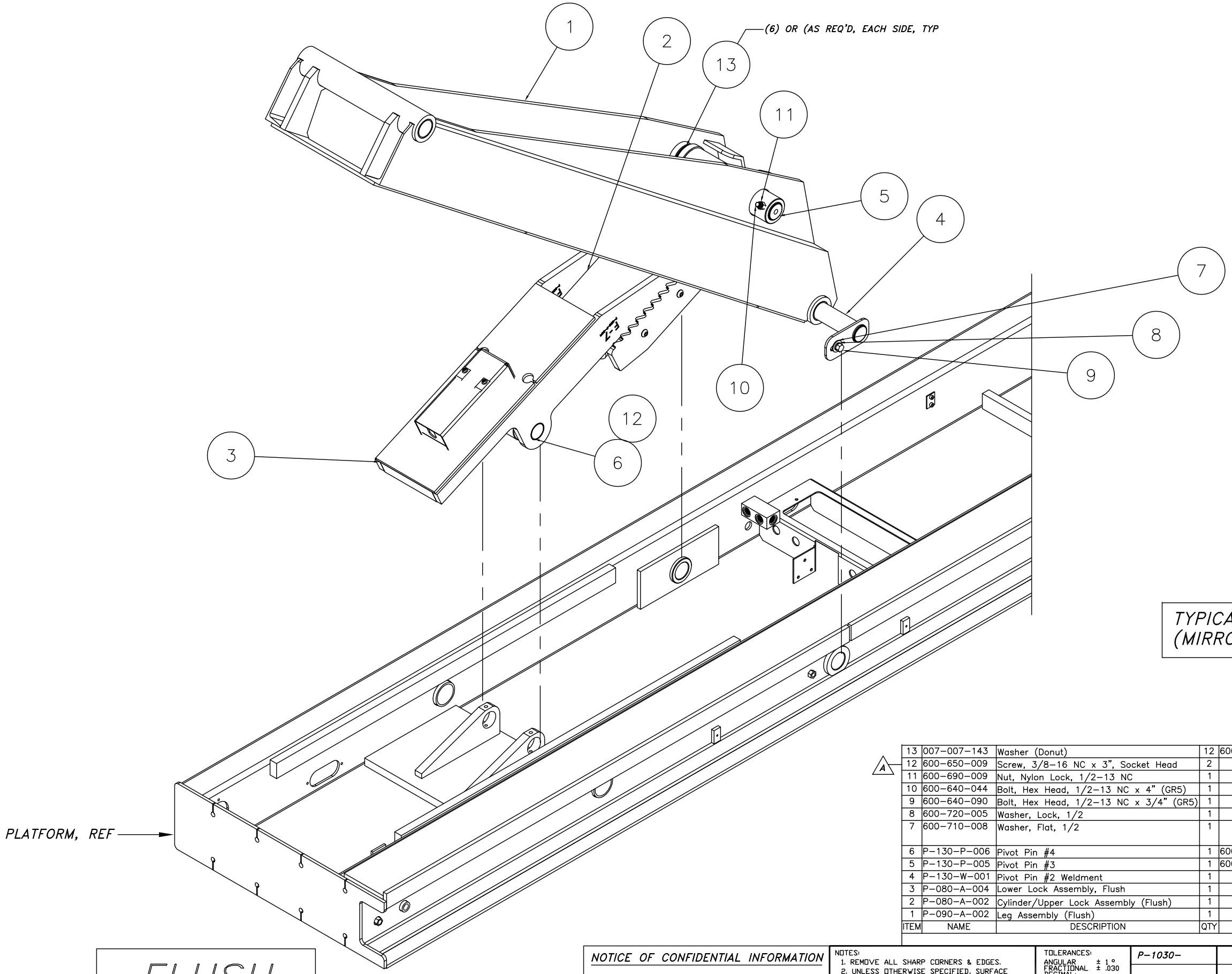
FILE NAME P-030-A-005

P-030-

NEXT ASSEMBLY

SCALE 1/8	DRAWN dak	MOHAWK RESOURCES LTD.	
CHECKED	APPROVED	TITLE LEG TO PLATFORM SUB-ASSEMBLY, SURFACE	
DATE 4/17/03	WEIGHT 869 LB.	FROM	DRAWING NUMBER P-030-A-005 B

#	DESCRIPTION	DATE	APPROVED
A	ITEM 13 WAS P-130-P-001	12/05/2008	dak0879



TYPICAL ALL LEG LOCATIONS
(MIRROR VIEW FOR OPPOSITE PLATFORM)

ITEM	NAME	DESCRIPTION	QTY	MATERIAL	VENDOR	NOTE	MASS	PRICE
13	007-007-143	Washer (Donut)	12	600-030-011		20 GA (.0359) x 2 1/4 ID x 3 1/4 OD	0.040	
12	600-650-009	Screw, 3/8-16 NC x 3", Socket Head	2				0.105	
11	600-690-009	Nut, Nylon Lock, 1/2-13 NC	1				0.050	
10	600-640-044	Bolt, Hex Head, 1/2-13 NC x 4" (GR5)	1				0.270	
9	600-640-090	Bolt, Hex Head, 1/2-13 NC x 3/4" (GR5)	1				0.090	
8	600-720-005	Washer, Lock, 1/2	1				0.010	
7	600-710-008	Washer, Flat, 1/2	1		Grainger #6PU20		0.020	
6	P-130-P-006	Pivot Pin #4	1	600-100-013		2" Dia x 10 1/8"	8.610	
5	P-130-P-005	Pivot Pin #3	1	600-100-013		2" Dia x 18 1/8"	15.780	
4	P-130-W-001	Pivot Pin #2 Weldment	1				27.640	
3	P-080-A-004	Lower Lock Assembly, Flush	1				132.305	0.00
2	P-080-A-002	Cylinder/Upper Lock Assembly (Flush)	1				201.760	
1	P-090-A-002	Leg Assembly (Flush)	1				704.500	

A

Parts List

FLUSH

D-SIZE

NOTICE OF CONFIDENTIAL INFORMATION

INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPERTY OF MOHAWK RESOURCES LTD.. WHERE DRAWING IS FURNISHED TO OTHERS IT SHALL BE USED SOLELY FOR PURPOSES OF INSPECTION, INSTALLATION, OR MAINTENANCE. THE INFORMATION SHALL NOT BE USED OR DISCLOSED BY THE RECIPIENT FOR ANY OTHER PURPOSES WHATSOEVER.

NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70T1 CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME *P-1030-A-005*

P-1030-

NEXT ASSEMBLY

SCALE *1/16*
DRAWN *dak*
CHECKED
APPROVED
DATE *1/31/05*
WEIGHT *1092* LB.

MOHAWK RESOURCES LTD.

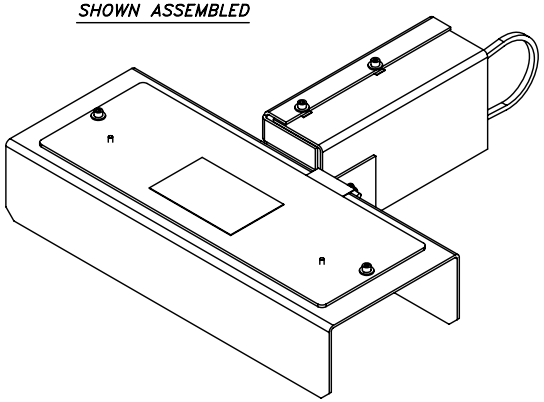
TITLE *LEG TO PLATFORM SUB-ASSEMBLY, FLUSH*

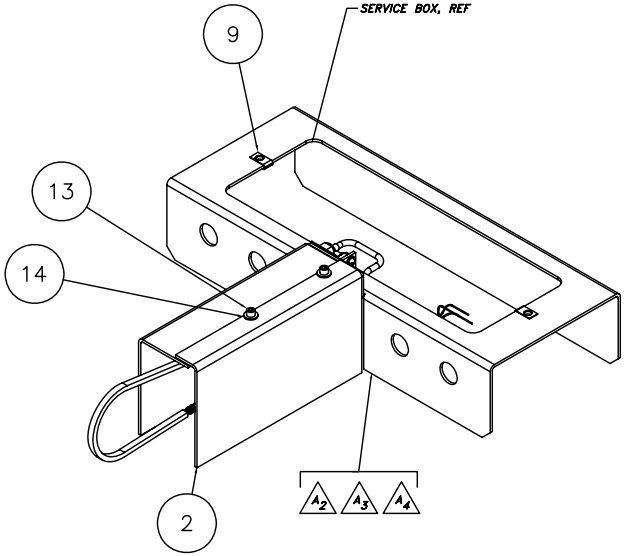
FROM

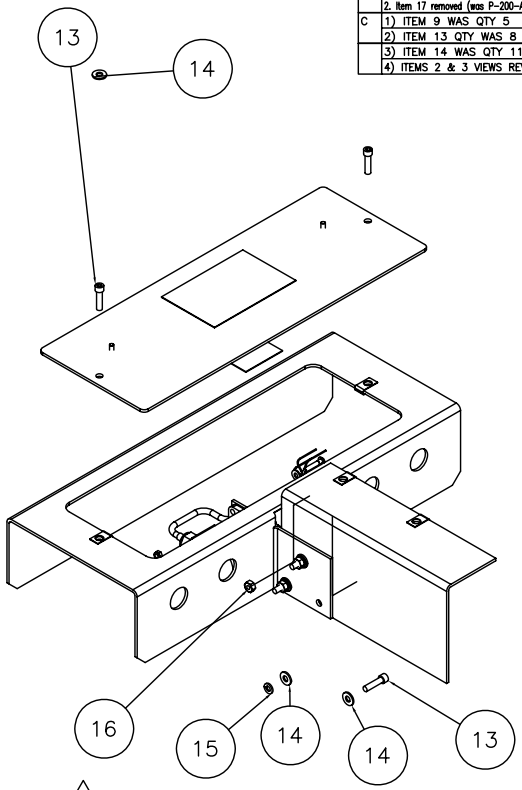
DRAWING NUMBER *P-1030-A-005* A

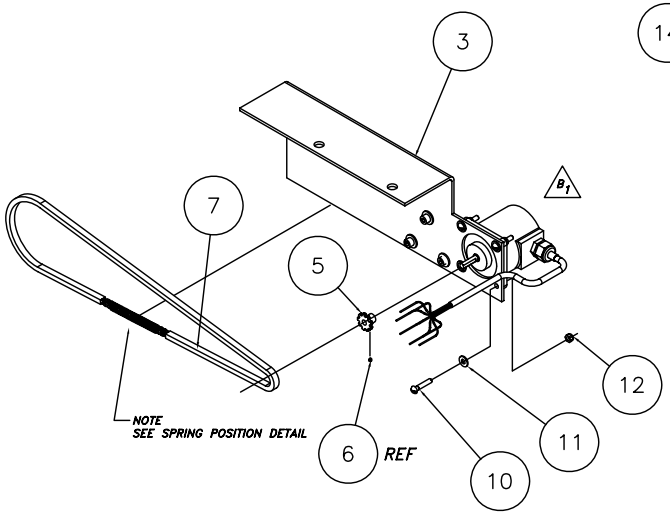
#	DESCRIPTION	DATE	APPROVED
A	1. Spring on chain flipped to other side.	09/11/2003	rwv7089
	2. Item 13 Qty was 9.		
	3. Item 14 Qty was 13.	09/11/2003	rwv7089
	4. Item 16 Qty was 4.		
B	1. Item 4 was 601-165-021	10/07/2003	rwv7089
	2. Item 17 removed (was P-200-A-003)		
C	1) ITEM 9 WAS QTY 5		
	2) ITEM 13 QTY WAS 8		
	3) ITEM 14 WAS QTY 11	11/12/03	dak0879
	4) ITEMS 2 & 3 VIEWS REVISED		

SHOWN ASSEMBLED









REF, ITEM 6 COMES WITH ITEM 5

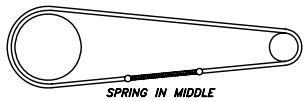
B1

ITEM	NAME	DESCRIPTION	QTY
16	600-680-006	Nut, Plain, 1/4-20 NC	3
15	600-720-007	Washer, Lock, 1/4	3
14	600-710-004	Washer, Flat, 1/4	10
13	600-650-008	Cap Screw, Socket Head, 1/4-20 NF x 1" Lg, Grade 5	7
12	600-690-019	Nut, Nylon Lock, #10-32 NF	4
11	600-710-013	Washer, Flat, #10	4
10	600-600-005	Screw, Slotted Round Head, #10-32 NF x 1	4
9	601-200-010	U-Nut, Automotive, 1/4-20	4
8	601-200-034	Spring, Extension, 2" Lg	1
7	P-030-P-401	Chain, Roller, Stainless Steel, 31" Long	1
6	600-630-009	Set Screw, #4-40 NC x 1/8 Lg	1
5	601-200-032	Sprocket, Encoder	1
4	601-165-066	Encoder, w/ Flat Shaft & Pre-Wired Cable	1
3	P-150-P-009	Encoder Mounting Bracket	1
2	P-150-P-008	Encoder Chain Cover	1
1	P-150-A-001	Cover Assy, Encoder Box	1

Parts List

SPRING POSITION WHEN LIFT FULL LOWERED

A1



SPRING IN MIDDLE

TOP OF PLATFORM

D-SIZE

NOTICE OF CONFIDENTIAL INFORMATION

INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPERTY OF MOHAWK RESOURCES LTD., WHERE DRAWING IS FURNISHED TO OTHERS IT SHALL BE USED SOLELY FOR PURPOSES OF INSPECTION, INSTALLATION, OR MAINTENANCE. THE INFORMATION SHALL NOT BE USED OR DISCLOSED BY THE RECIPIENT FOR ANY OTHER PURPOSES WHATSOEVER.

NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70T1 CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME: P-030-A-006

P-030-

NEXT ASSEMBLY

SCALE: N/A
DRAWN: dak
CHECKED:
APPROVED:
DATE: 4/18/03
WEIGHT: 15 LB.

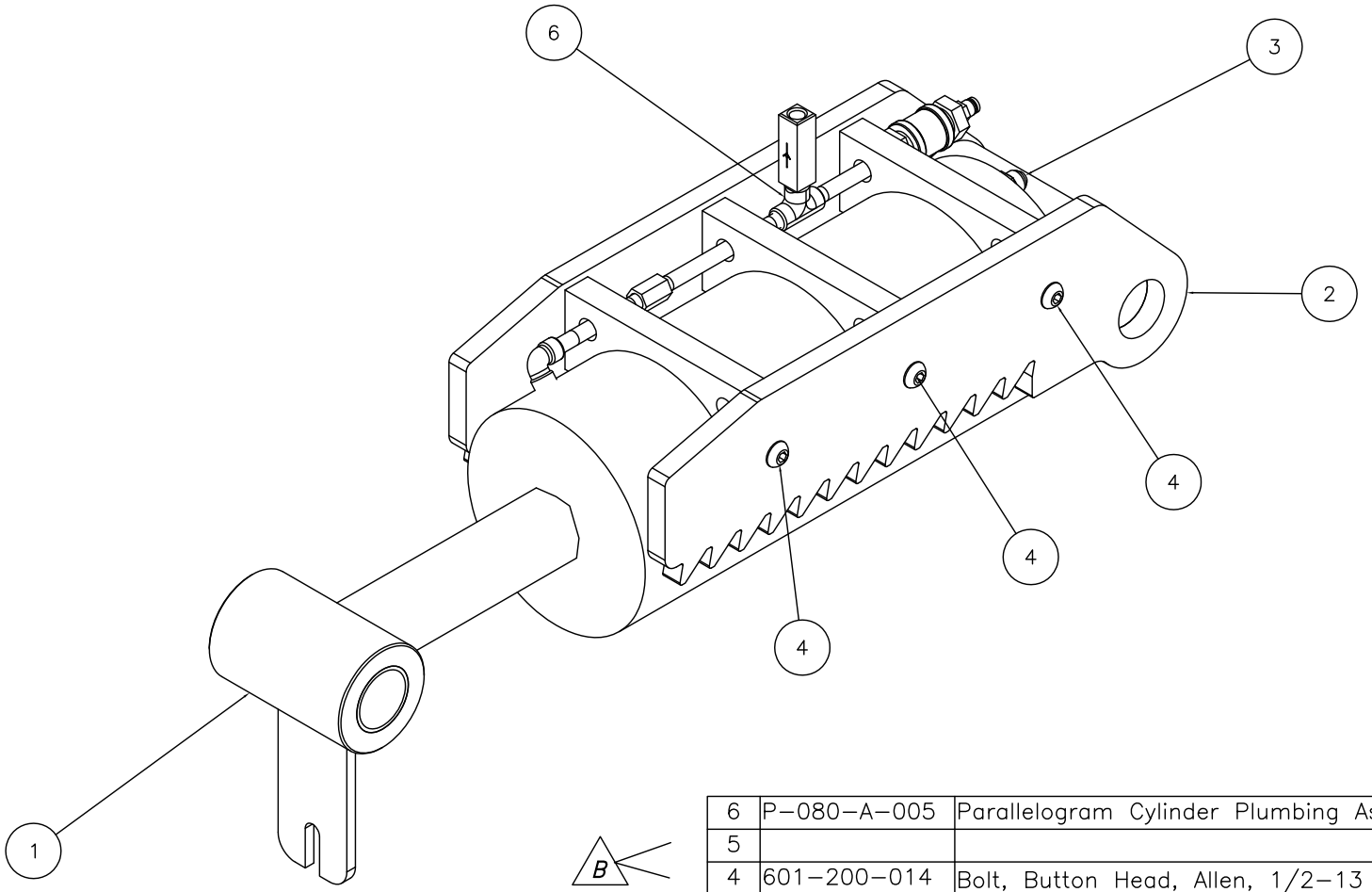
MOHAWK RESOURCES LTD.

TITLE: ENCODER BOX ASSEMBLY

FROM:
DRAWING NUMBER: P-030-A-006

C

#	DESCRIPTION	DATE	APPROVED
A	601-200-039 REMOVED AND REPLACED BY P-080-A-005	03/12/2010	dak0879
B	ITEM 5 WAS 600-640-005 & ITEM 4 QTY IS NOW 6	05/04/2010	dak0879



SURFACE

ITEM	NAME	DESCRIPTION	QTY
6	P-080-A-005	Parallelogram Cylinder Plumbing Assembly	1
5			0
4	601-200-014	Bolt, Button Head, Allen, 1/2-13 NC x 1 1/2 (GR5)	6
3	601-200-016	Velocity Fuse, 10 GPM	1
2	P-080-P-001	Upper Lock Jaw	2
1	601-200-018	Cylinder Assy, Parallel, SURFACE	1

Parts List

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NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70T1 CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME P-080-A-001

P-080-A-

NEXT ASSEMBLY

SCALE 3/4 | DRAWN dak | CHECKED | APPROVED | DATE 4/3/03 | WEIGHT 196.18 LB.

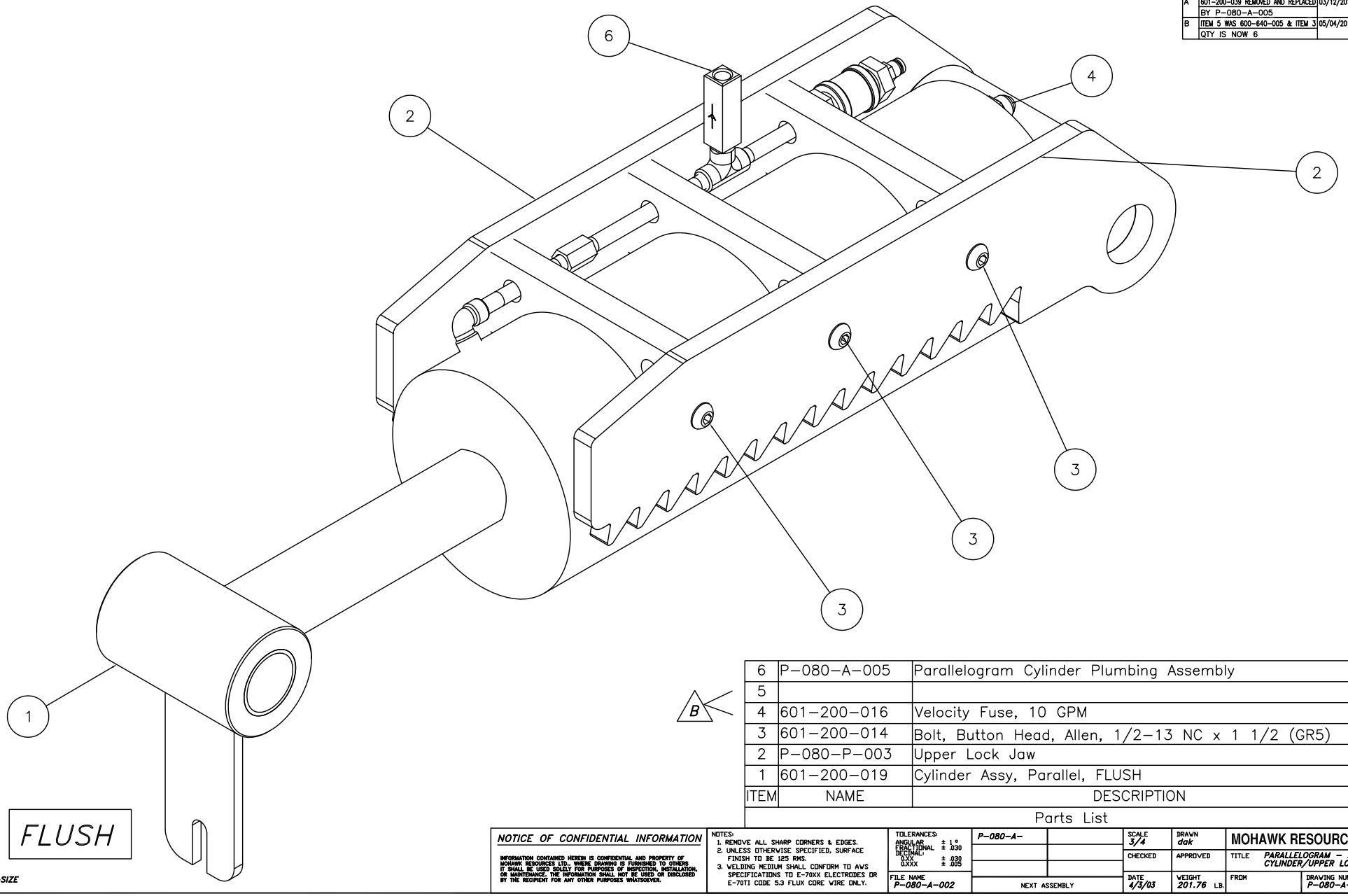
MOHAWK RESOURCES LTD.

TITLE PARALLELOGRAM - SURFACE CYLINDER/UPPER LOCK ASS'Y

FROM | DRAWING NUMBER P-080-A-001 | B

D-SIZE

#	DESCRIPTION	DATE	APPROVED
A	601-200-039 REMOVED AND REPLACED BY P-080-A-005	03/12/2010	dak0879
B	ITEM 5 WAS 600-640-005 & ITEM 3 QTY IS NOW 6	05/04/2010	dak0879



ITEM	NAME	DESCRIPTION	QTY
6	P-080-A-005	Parallelogram Cylinder Plumbing Assembly	1
5			0
4	601-200-016	Velocity Fuse, 10 GPM	1
3	601-200-014	Bolt, Button Head, Allen, 1/2-13 NC x 1 1/2 (GR5)	6
2	P-080-P-003	Upper Lock Jaw	2
1	601-200-019	Cylinder Assy, Parallel, FLUSH	1

Parts List

FLUSH

D-SIZE

NOTICE OF CONFIDENTIAL INFORMATION

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NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70T1 CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME P-080-A-002

P-080-A-

NEXT ASSEMBLY

SCALE 3/4

DRAWN dak

CHECKED

APPROVED

DATE 4/3/03

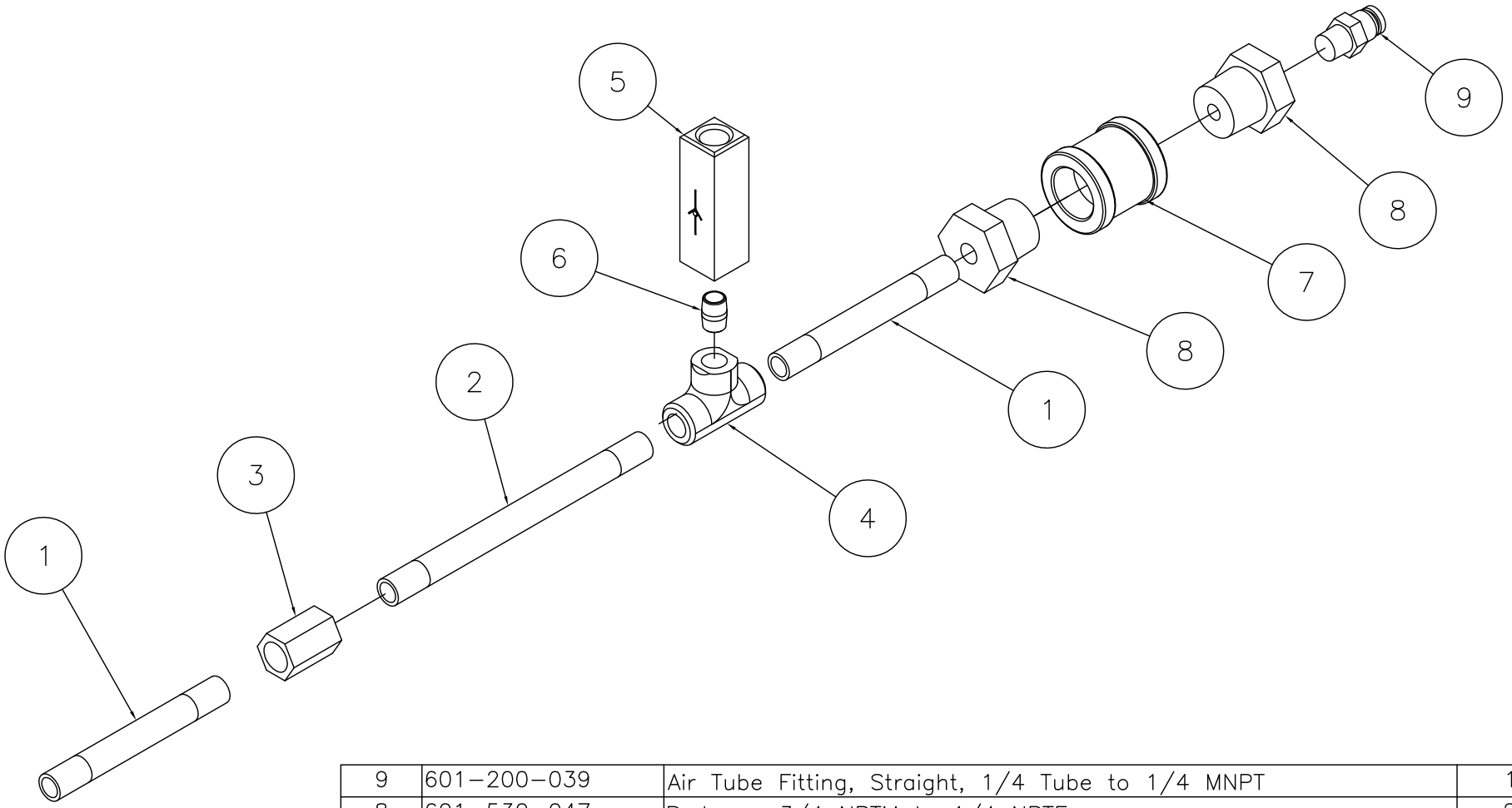
WEIGHT 201.76 LB.

MOHAWK RESOURCES LTD.

TITLE PARALLELOGRAM - FLUSH CYLINDER/UPPER LOCK ASSEMBLY

FROM

DRAWING NUMBER P-080-A-002 B



ITEM	NAME	DESCRIPTION	QTY
9	601-200-039	Air Tube Fitting, Straight, 1/4 Tube to 1/4 MNPT	1
8	601-530-047	Reducer, 3/4 NPTM to 1/4 NPTF	2
7	601-530-009	Coupling, 3/4 NPT, Fem Typ, 150#	1
6	601-450-040	Pipe Nipple, 1/4 x Close, Galvanized, BlackSched 40, 150#	1
5	601-410-093	Check Valve, Brass, 1/4-18, 5 gpm, 2000 PSI	1
4	601-450-021	Tee, 1/4 NPT, Female	1
3	601-450-019	Pipe Coupling, 1/4 NPT Fem to 1/4 NPT Fem	1
2	601-450-042	Nipple, Pipe, 1/4 Pipe x 6" Long	1
1	601-450-041	Nipple, Pipe, 1/4 Pipe x 4" Long	2

C-SIZE

NOTICE OF CONFIDENTIAL INFORMATION

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NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70TI CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME P-080-A-005

P-080-A-002

P-080-A-001

NEXT ASSEMBLY

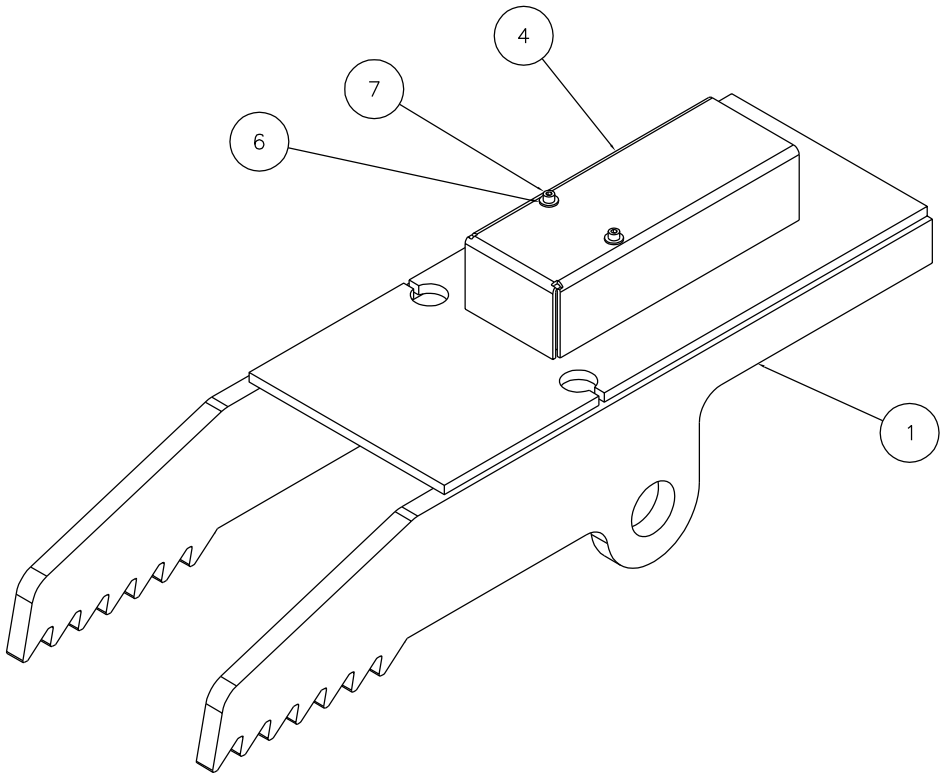
SCALE 3/4 | DRAWN dak | CHECKED | APPROVED | DATE 3/10 | WEIGHT 1.971 LB.

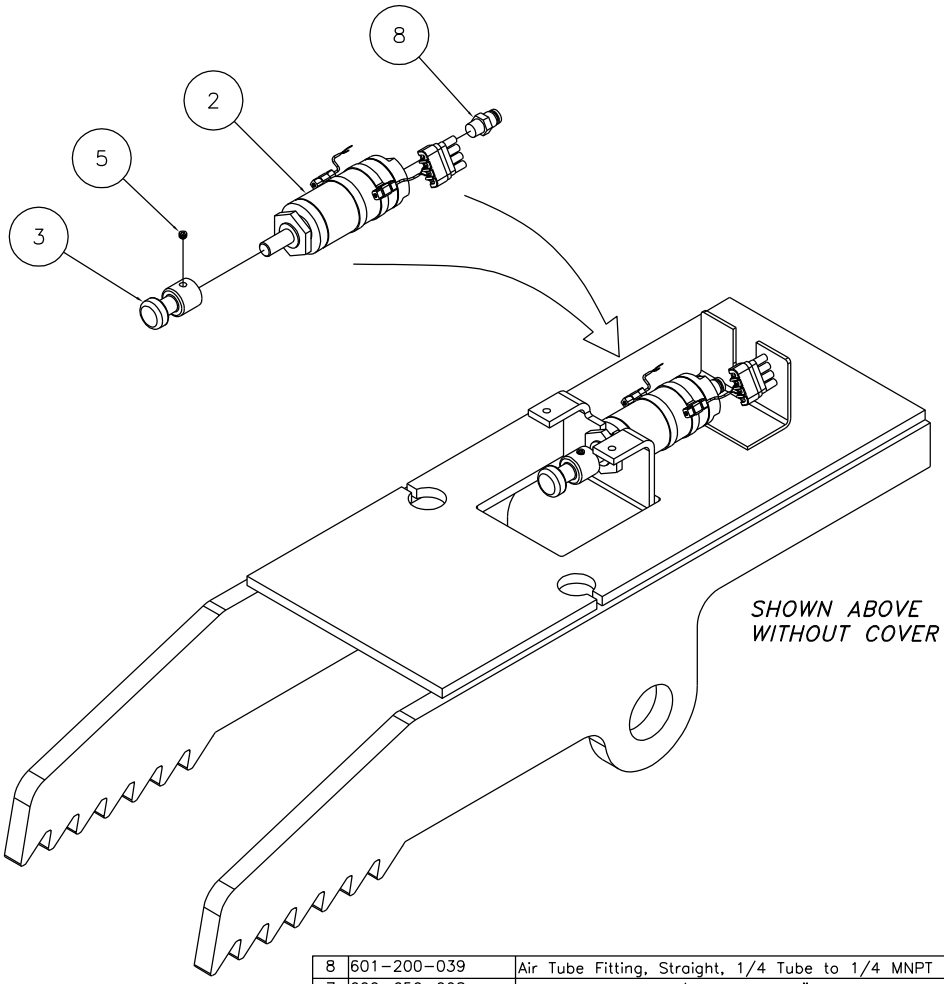
MOHAWK RESOURCES LTD.

TITLE *PARALLELOGRAM CYLINDER PLUMBING ASSEMBLY*

FROM

DRAWING NUMBER P-080-A-005





SHOWN ABOVE
WITHOUT COVER

SURFACE

ITEM	NAME	DESCRIPTION	QTY
8	601-200-039	Air Tube Fitting, Straight, 1/4 Tube to 1/4 MNPT	1
7	600-650-008	Socket Cap Bolt, 1/4-20 NC x 1" Lg	2
6	600-710-004	Washer, Flat, 1/4	2
5	600-630-008	Set Screw, 1/4-20 NC x 3/16 Lg	1
4	P-150-P-010	Air Cylinder Cover	1
3	P-080-P-005	Bobbin, Air Cylinder	1
2	P-200-A-002	L/R Air Cylinder Assembly	1
1	P-080-W-001	Lower Lock Weldment, SURFACE	1

Parts List

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NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70T1 CODE 5.3 FLUX CORE WIRE ONLY.

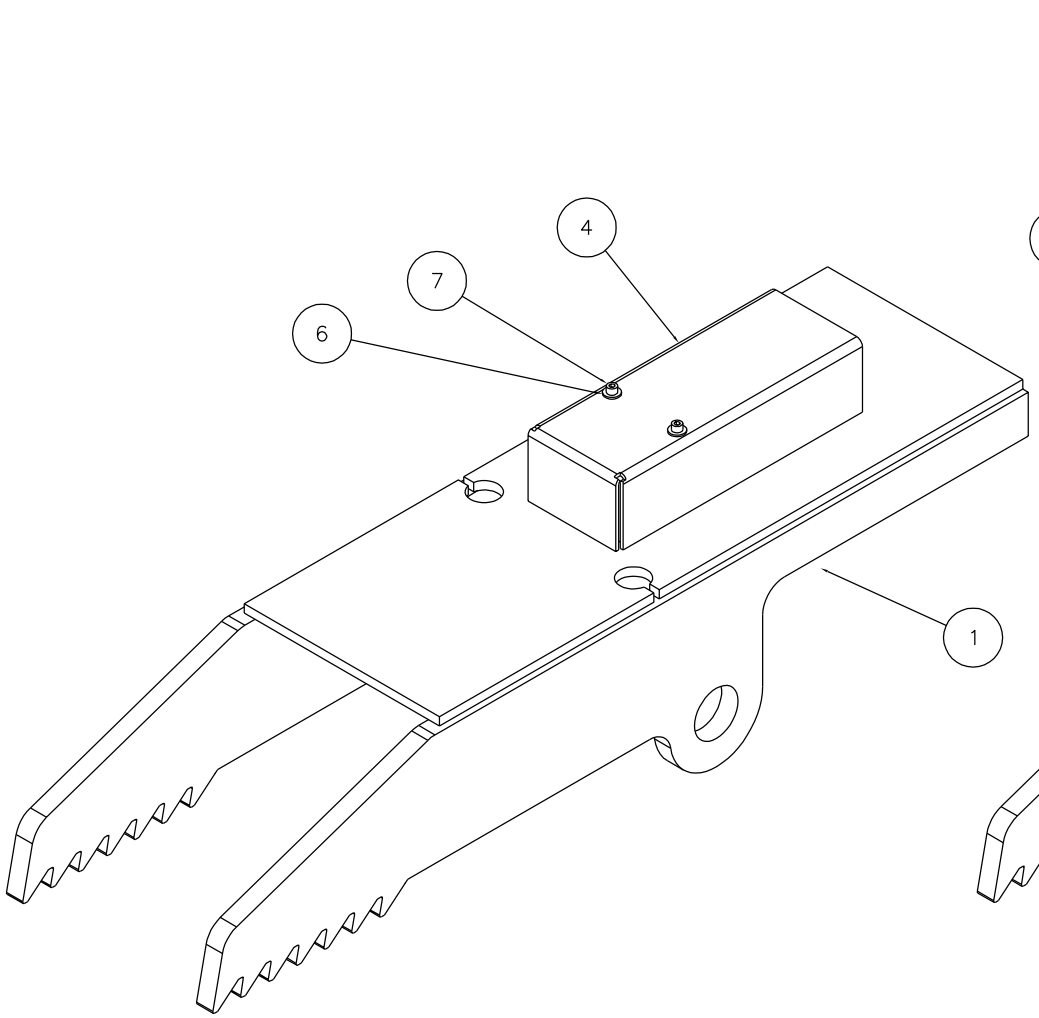
TOLERANCES:
ANGULAR ± 1.°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

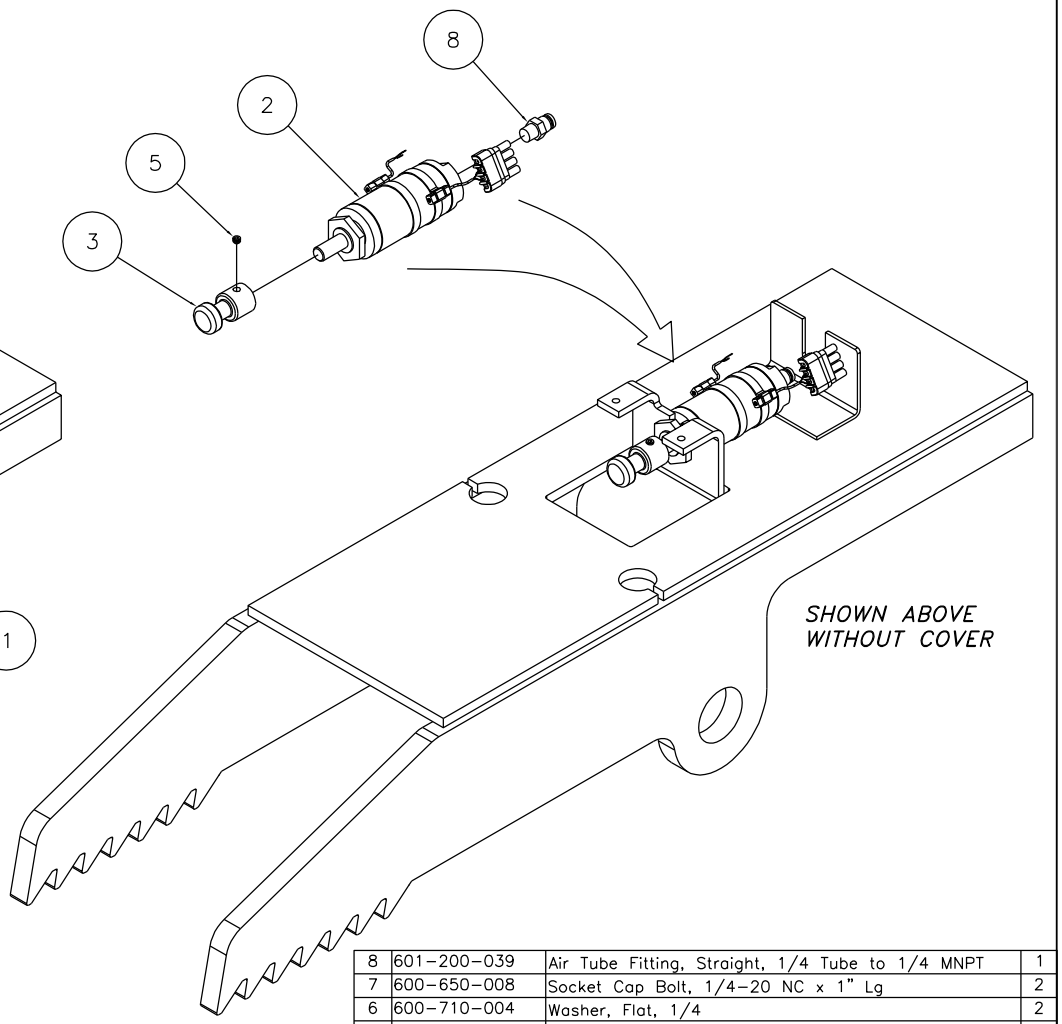
FILE NAME P-080-A-003

NEXT ASSEMBLY

SCALE 1/2	DRAWN rwv7089	MOHAWK RESOURCES LTD.	
	CHECKED	APPROVED	TITLE Lower Lock Assy, SURFACE
DATE 4/16/03	WEIGHT 112 LB.	FROM n/a	DRAWING NUMBER P-080-A-003

D-SIZE





SHOWN ABOVE
WITHOUT COVER

FLUSH

ITEM	NAME	DESCRIPTION	QTY
8	601-200-039	Air Tube Fitting, Straight, 1/4 Tube to 1/4 MNPT	1
7	600-650-008	Socket Cap Bolt, 1/4-20 NC x 1" Lg	2
6	600-710-004	Washer, Flat, 1/4	2
5	600-630-008	Set Screw, 1/4-20 NC x 3/16 Lg	1
4	P-150-P-010	Air Cylinder Cover	1
3	P-080-P-005	Bobbin, Air Cylinder	1
2	P-200-A-002	L/R Air Cylinder Assembly	1
1	P-080-W-002	Lower Lock Weldment, FLUSH	1

Parts List

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NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-7011 CODE 5.3 FLUX CORE WIRE ONLY.

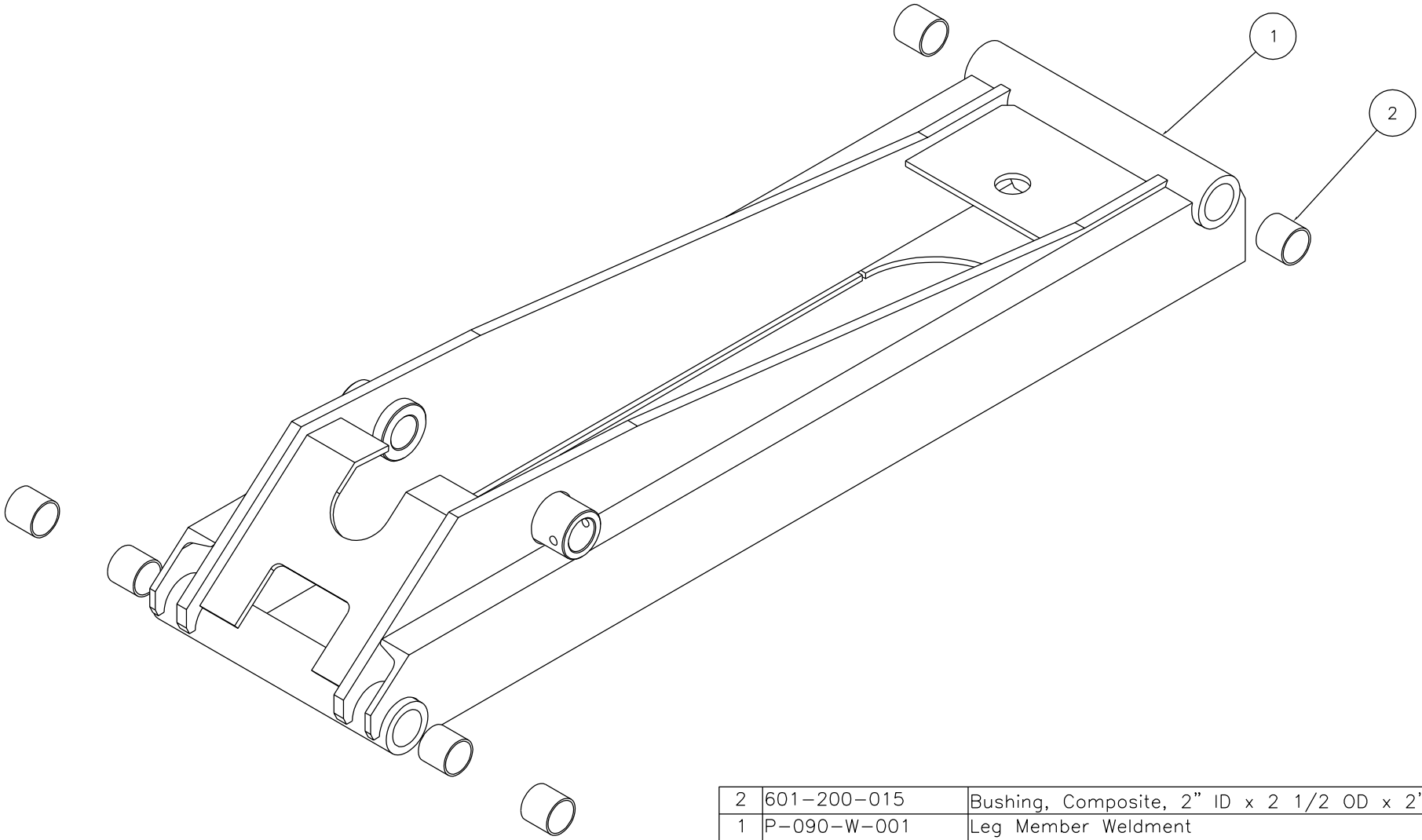
TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
.XX ± .030
.XXX ± .005

FILE NAME P-080-A-004

NEXT ASSEMBLY

SCALE 1/2	DRAWN rwv7089	MOHAWK RESOURCES LTD.	
CHECKED	APPROVED	TITLE Lower Lock Assy, FLUSH	
DATE 4/17/03	WEIGHT 133.3 LB.	FROM n/a	DRAWING NUMBER P-080-A-004

D-SIZE



ITEM	NAME	DESCRIPTION	QTY
2	601-200-015	Bushing, Composite, 2" ID x 2 1/2 OD x 2" Lg	6
1	P-090-W-001	Leg Member Weldment	1

Parts List

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NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70xx ELECTRODES OR E-70T1 CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1.°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME P-090-A-001

NEXT ASSEMBLY

SCALE 1'0"=1'0"
DRAWN rwv7089
CHECKED
APPROVED
DATE 4/16/03
WEIGHT 508 LB.

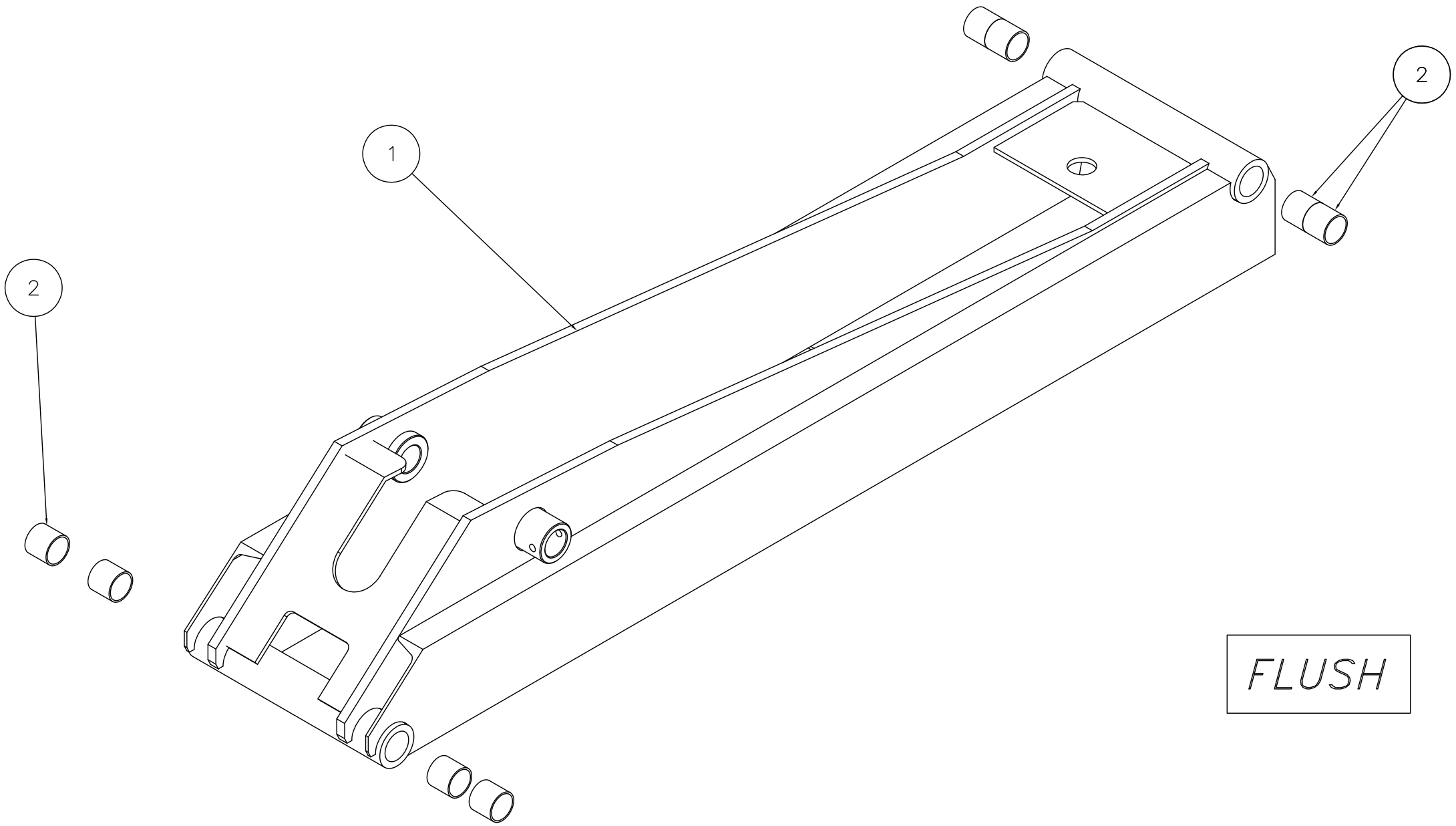
MOHAWK RESOURCES LTD.

TITLE Leg Assembly, SURFACE

FROM n/a
DRAWING NUMBER P-090-A-001

D-SIZE

#	DESCRIPTION	DATE	APPROVED
A	ITEM 2 QUANTITY WAS 4	01/05/2009	dak0879



FLUSH

ITEM	NAME	DESCRIPTION	QTY	MATERIAL	VENDOR	NOTE	MASS	PRICE
2	601-200-015	Bearing, Plastic, 2.0 Dia x 2.0 Lg	8				0.050	
1	P-090-W-006	Leg Member Weldment	1				704.480	

Parts List

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NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70T1 CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1.0
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME P-090-A-002

P-090-A-

NEXT ASSEMBLY

SCALE 1/4 | DRAWN dak | CHECKED | APPROVED | DATE 4/23/03 | WEIGHT 704.5 LB.

MOHAWK RESOURCES LTD.

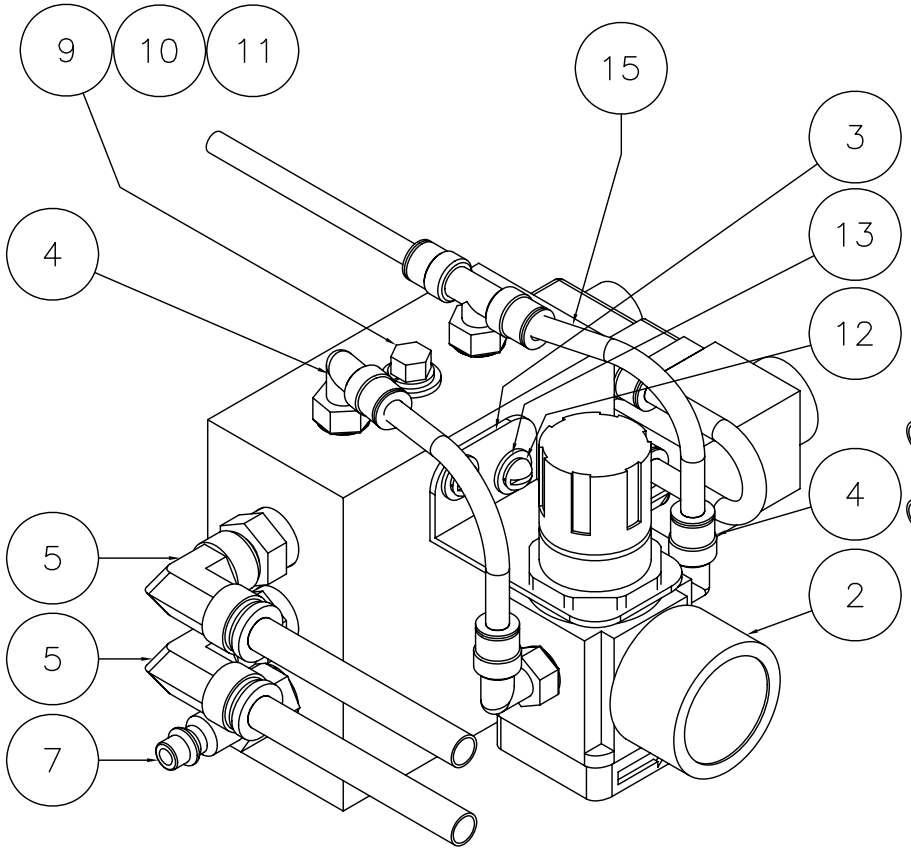
TITLE LEG MEMBER ASSEMBLY (FLUSH)

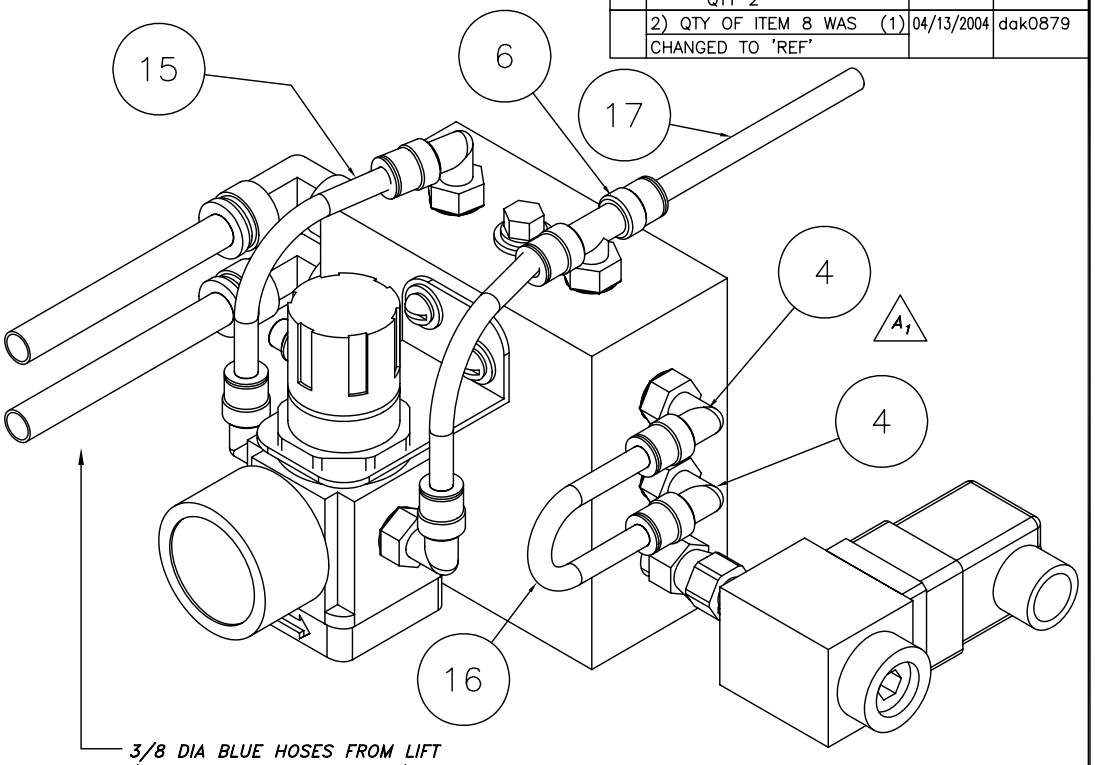
FROM | DRAWING NUMBER P-090-A-002 | A

D-SIZE

#	DESCRIPTION	DATE	APPROVED
C	1) ITEM 2 WAS 601-510-013	05/31/2006	dak0879
	2) ITEM 3 WAS 601-510-014		

#	DESCRIPTION	DATE	APPROVED
A	1. 90 Degree Fittings Rotated	07/16/2003	rwv7089
B	1) ITEMS 9, 10 & 11 WERE QTY 2	04/12/2004	rwv7089
	2) QTY OF ITEM 8 WAS (1) CHANGED TO 'REF'	04/13/2004	dak0879





ITEM	NAME	DESCRIPTION	QTY
17	P-110-P-422	Plastic Tubing, Yellow, 1/4 Dia x 12"	1
16	P-110-P-421	Plastic Tubing, Yellow, 1/4 Dia x 6"	1
15	P-110-P-420	Plastic Tubing, Yellow, 1/4 Dia x 4"	2
14	600-720-009	Washer, Lock, #10	2
13	600-710-013	Washer, Flat, #10	2
12	600-600-006	Screw, Slotted Round Head, #10-32 NF x 1/2 Lg	2
11	600-720-007	Washer, Lock, 1/4	1
10	600-710-004	Washer, Flat, 1/4	1
9	600-640-087	Bolt, Hex Head, 1/4-20 NC x 4 1/2" (GR5)	1
8	601-165-038	Pressure Switch W/Din Connector	0
7	601-530-002	Air Coupler Plug Type	1
6	601-520-010	Union Tee, 1/4 Tube To 1/4 Male Pipe	1
5	601-200-038	Air Tube Fitting, 90 Deg Elbow, 3/8 Tube to 3/8 MNPT	2
4	601-520-003	90 Deg Swivel, 1/4 NPT to 1/4 Tube	5
3	601-510-025	Wall Bracket	1
2	601-510-026	Regulator	1
1	P-110-P-030	Air Regulator-Manifold Block	1

B1 B2 C2 C1

Parts List

C-SIZE PC-A-20

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NOTES:
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TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME P-110-A-020

P-110-A-007

NEXT ASSEMBLY

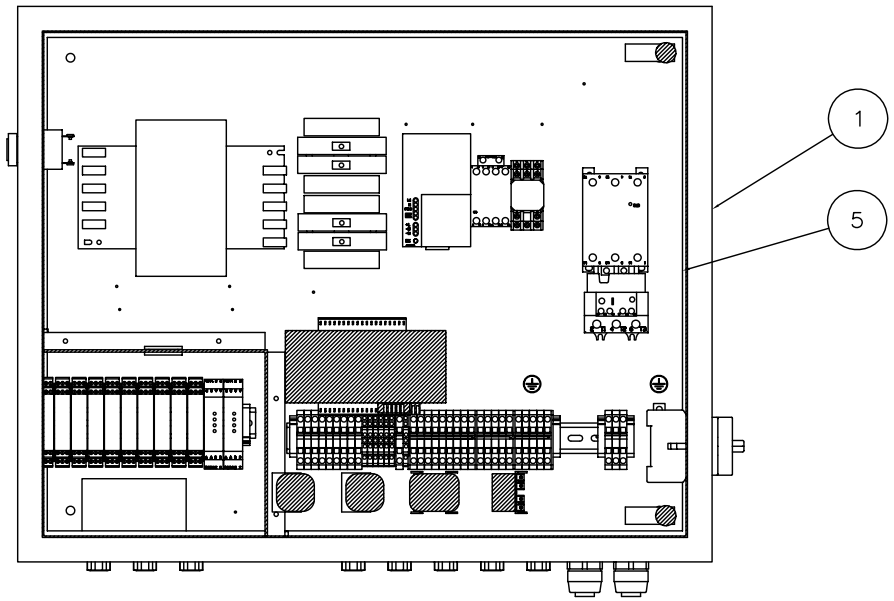
SCALE 3/4 | DRAWN rwv7089 | CHECKED | APPROVED | DATE 12/5/02 | WEIGHT 7.14 LB.

MOHAWK RESOURCES LTD.

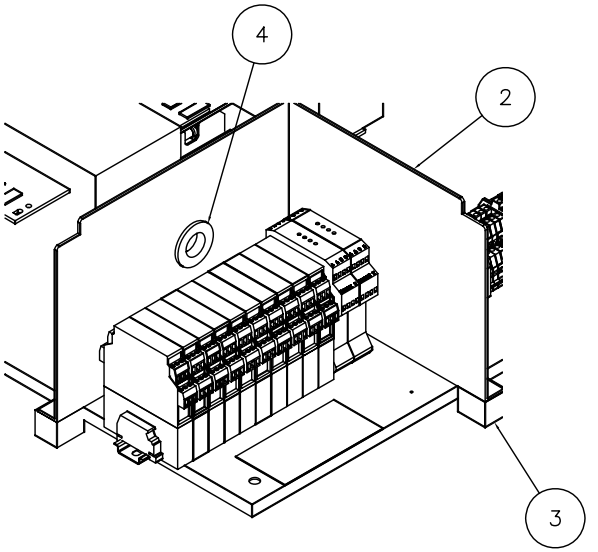
TITLE (Parallelogram) Air Regulator-Manifold Assy

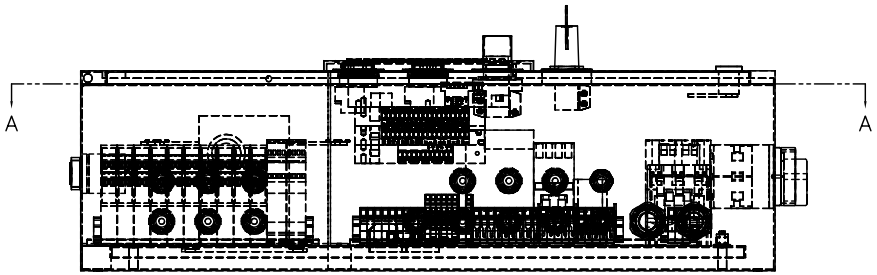
FROM N/A | DRAWING NUMBER P-110-A-020 | C

#	DESCRIPTION	DATE	APPROVED
A	ITEMS 3, 4 & 5 ADDED.	02/10/2004	rwv7089
	Notes Added.		
B	ITEM 5,6,7 ADDED AS ALTERATIVES	03/05/2008	rwv7089
	(WAS P-110-A-024)		
C	Item 5 was P-110-A-030	07/09/2008	rwv7089
	Item 6 was P-110-A-031		
	Item 7 was P-110-A-032	07/09/2008	rwv7089
D	VIEW OF ITEM 5 UPDATED	12/02/2008	rwv7089



SECTION A–A





NOTES:

1. PLACE PARTITION OVER PANEL AND PRESS AGAINST WALLS OF ENCLOSURE. SCAR/GRIND/SAND AROUND HOLE ON PARTITION BEFORE SECURING TO PANEL WITH #10-32 SCREWS TO ENSURE PARTITION IS GROUNDED TO PANEL.

2. ONCE PARTITION IS SECURE TO PANEL, INSERT RUBBER BLOCKS AS INDICATED AND SECURE TO PARTITION WITH #10-32 SCREWS.

B C

ITEM	NAME	DESCRIPTION	QTY
5	P-110-A-037	Panel Assy, Parallelogram (7/08)	1
4	601-130-002	Grommet 1 1/4 Dia Hole	1
3	P-110-P-038	Rubber	2
2	P-110-P-036	Enclosure Partition	1
1	P-110-A-011	Control Enclosure Sub-Assembly, Parallelogram	1

Parts List

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TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME *P-110-A-025*

P-110-A-002

NEXT ASSEMBLY

SCALE *1'0"=1'0"*
DRAWN *RWV7089*
CHECKED
APPROVED
DATE *12/20/2003*
WEIGHT *140* LB.

MOHAWK RESOURCES LTD.

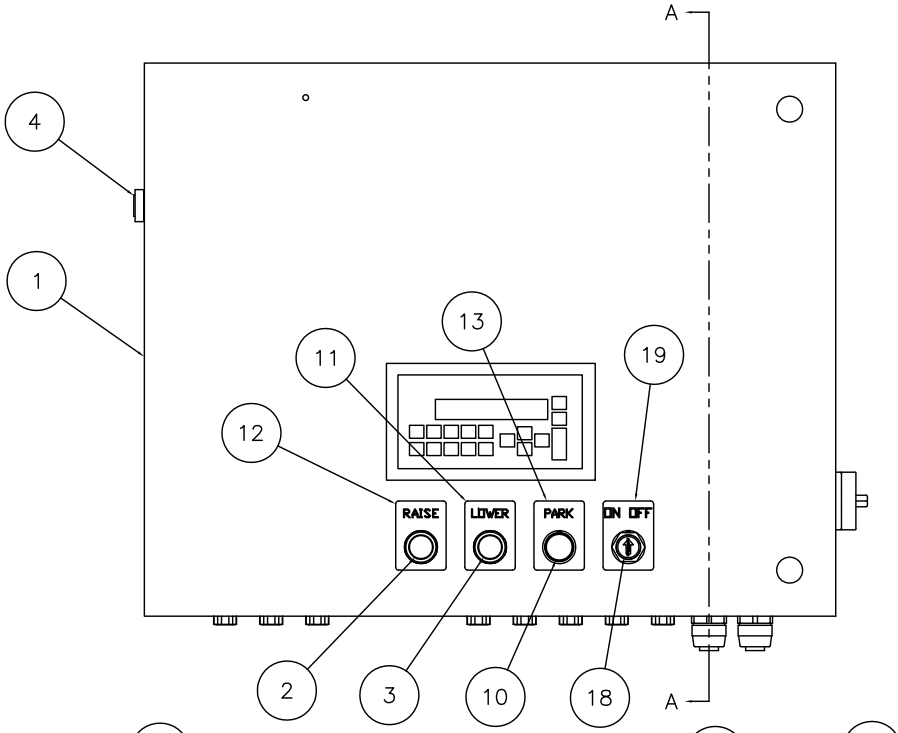
TITLE *Parallelogram Control Box Assembly*

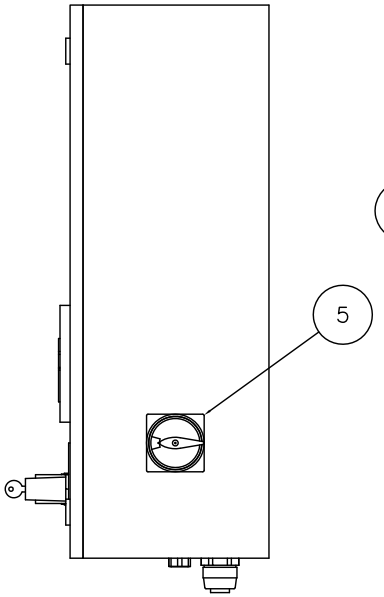
FROM *n/a*
DRAWING NUMBER *P-110-A-025*
D

D-SIZE

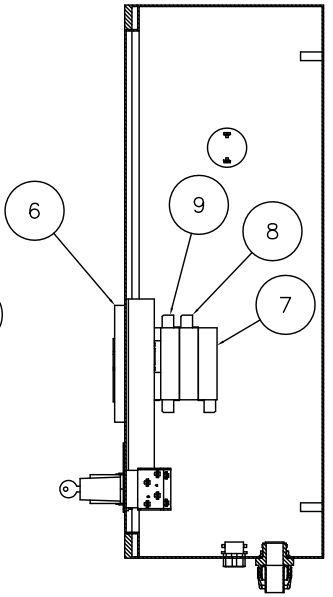
NOTE: MATCH DRILL ENCLOSURE DOOR FOR THREADS ON CONTROL DISPLAY (ITEM 6)

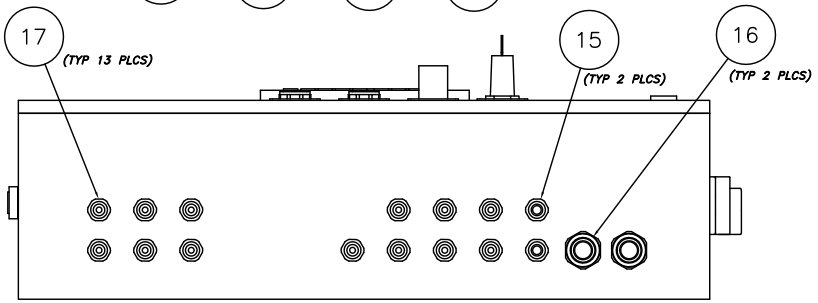
#	DESCRIPTION	DATE	APPROVED
A	Item 5 was 601-165-022	07/16/2003	rwv7089
B	Item 14 was 601-140-046 Qty 2 Item 17 was Qty of 8	12/22/2003	rwv7089
C	Cord Connectors Reconfigured on Bottom of Enclosure	02/06/2004	rwv7089
D	Item 18 & 19 Added. Item 17 was 11 pics	07/29/2008	rwv7089
E	1. Item 9 was 601-1650-015.	09/29/2010	rwv7089





SECTION A-A





ITEM	NAME	DESCRIPTION	QTY
19	601-110-016	Legend Plate, "ON - OFF"	1
18	601-110-025	Switch, Keyed	1
17	601-165-053	Straight Adapter, Red	13
16	601-165-050	Adapter, Conduit, Straight	2
15	601-140-045	Straight Adapter, White	2
14			0
13	601-110-027	Legend Plate, "Park"	1
12	601-110-020	Legend Plate, "Raise"	1
11	601-110-019	Legend Plate, "Lower"	1
10	601-165-034	Push Button, Illuminated	1
9	601-165-079	I-O Module	1
8	601-165-014	HSC Module	1
7	601-165-013	DAQ Module	1
6	601-165-012	Control Station	1
5	601-165-055	Rotary Disconnect Switch, 100A	1
4	601-165-018	Sonalert Solid State Signal	1
3	601-165-009	Push Button, Black	1
2	601-165-008	Push Button, Red	1
1	P-110-P-020	Control Enclosure Drilling, Parallelogram	1

Parts List

D
B_2
B_1
E_1

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TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL
.XX ± .030
.XXX ± .005

FILE NAME P-110-A-011

P-110-A-025

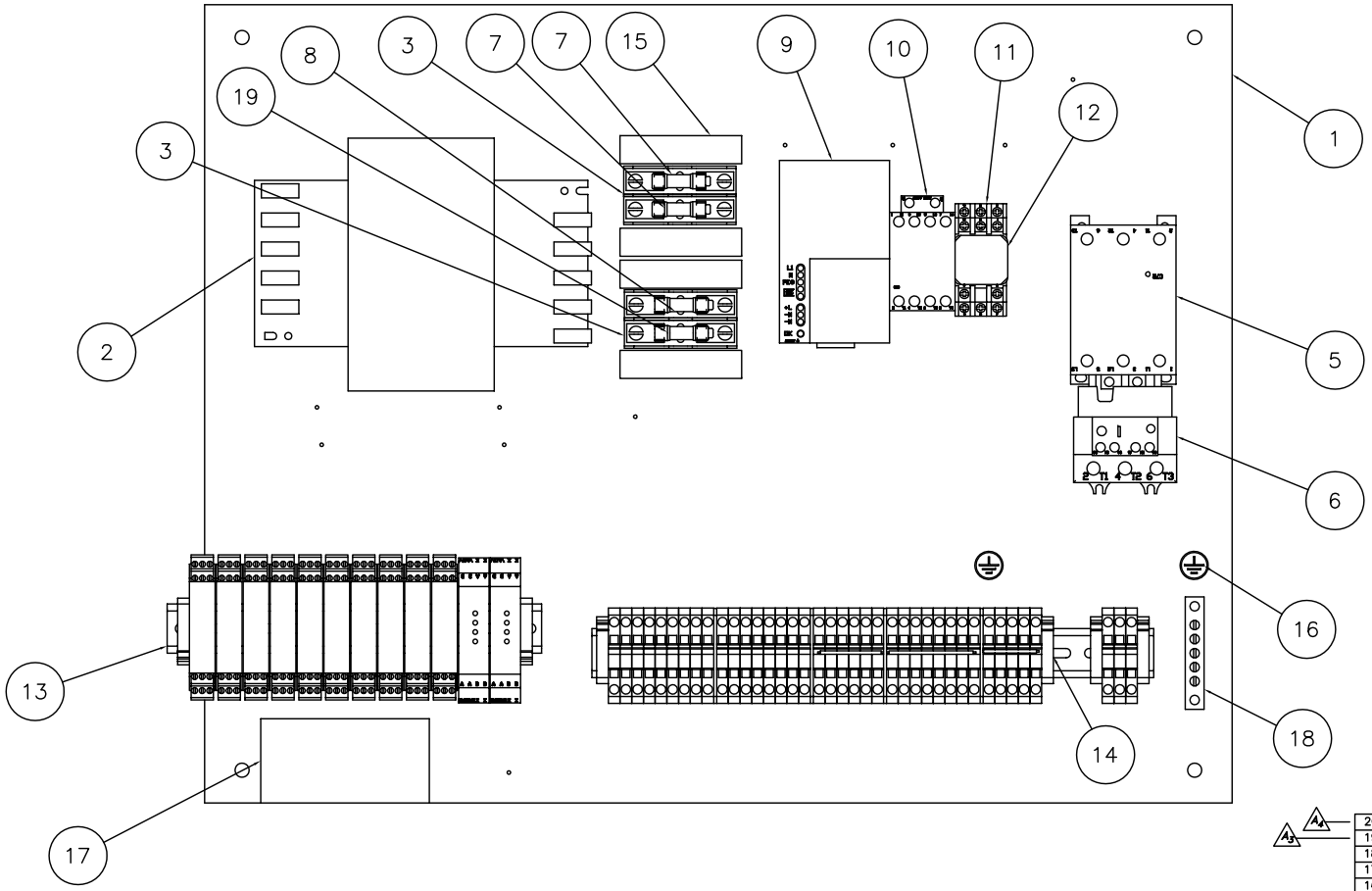
NEXT ASSEMBLY

SCALE NTS | DRAWN CDH | MOHAWK RESOURCES LTD.
CHECKED | APPROVED | TITLE Parallelogram Control Enclosure
DATE 10/02/02 | WEIGHT 70 LB. | FROM N/A | DRAWING NUMBER P-110-A-011 | E

D-SIZE

PC-A-11

#	DESCRIPTION	DATE	APPROVED
A	1. Item 4 Removed (was 601-120-074)	12/01/2008	rwv7089
	2. Item 3 was Qty 1.		
	3. Item 19 (601-120-048) Added.	12/01/2008	rwv7089
	4. Item 20 (601-120-119) Added.		
B	1. Item 5 was 601-165-032	09/29/2010	rwv7089
	2. Item 6 was 601-165-033		
	3. View of Item 14 Modified.	09/29/2010	rwv7089



	20	601-120-119	Fuse Cover, Indicating, Class CC & Midget Size	4
A_3 A_4	19	601-120-048	Fuse, Class CC, KLDR, 5 AMP, 600 V	1
	18	601-150-096	Ground Bar, 7 Hole, 5 Pole	1
	17	601-800-177	Decal, "Intrinsically Safe Field Wiring...", 2x3	1
	16	601-800-175	Ground Identification Symbol Decal (3/4 dia)	2
	15	601-800-124	Decal, "CAUTION - For Protection...Replace With...Fuse"	4
	14	P-110-A-023	Terminal Strip Assembly	1
	13	P-110-A-036	Barrier Strip Assembly, 4/6/8 LEG	1
	12	601-165-052	Relay, 24 VDC Coil	1
	11	601-160-017	Relay Socket 15A 11Pin Square	1
	10	601-165-031	Lighting Contactor	1
	9	601-165-067	Power Supply, 120 VAC to 24 VDC, DIN Mount	1
	8	601-120-089	Fuse, Class CC, KLDR 12 AMP, 600 V	1
	7	601-120-049	Fuse, Class CC, KLDR 10 A, 600 V	2
B_2	6	601-120-121	Overload, Contactor, 25-100 Amp	1
B_1 A_1	5	601-100-089	Contactor, 65 Amp, 3 Phase	1
	4			0
A_2	3	601-120-073	Fuse Block, Double, Class CC	2
	2	601-165-019	Transformer, 1000 VA	1
	1	P-110-P-024	Panel Drilling, Parallelogram	1
	ITEM	NAME	DESCRIPTION	QTY

Parts List

NOTES:

1. *ALL COMPONENTS SHOWN FOR 208-230 VAC, 3 PHASE (OVERLOAD TO BE SET TO 75 AMP)*
2. *TO REWIRE FOR 440-480 VAC, 3 PHASE:*
   CHANGE PRIMARY FUSES FROM 10 AMP TO 6 AMP
   REWIRE TRANSFORMER FOR 440-480 VAC
   ADJUST OVERLOAD TO 35 AMP

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TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

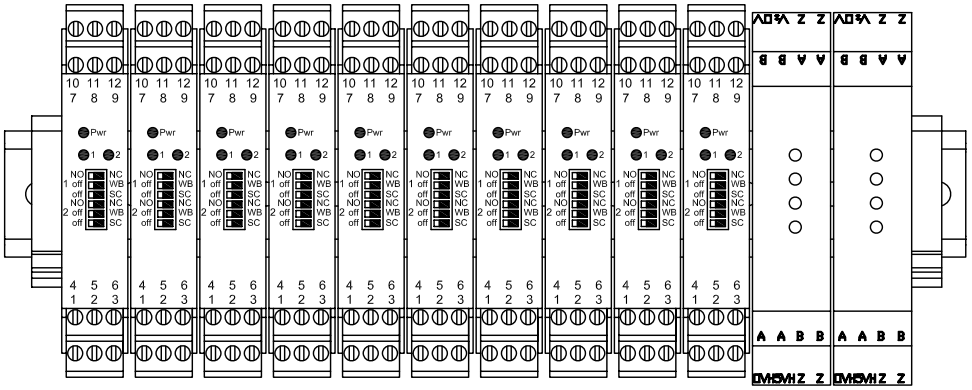
FILE NAME *P-110-A-037*

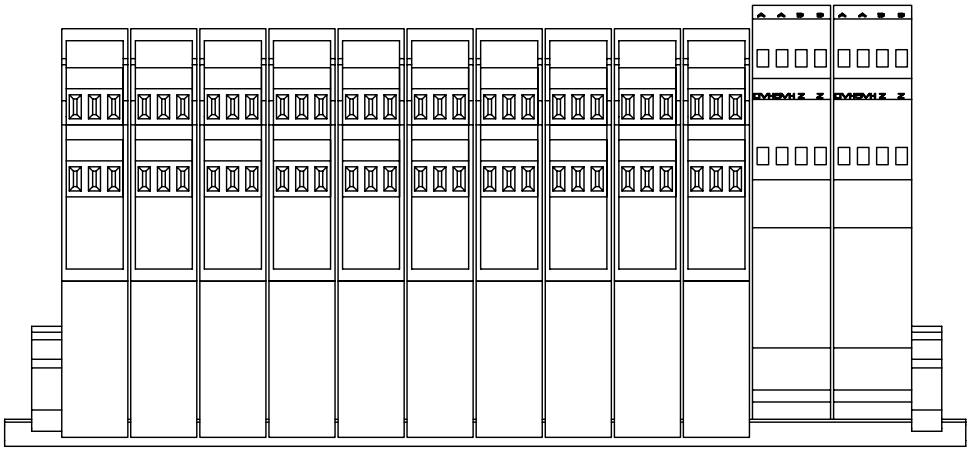
P-110-A-025

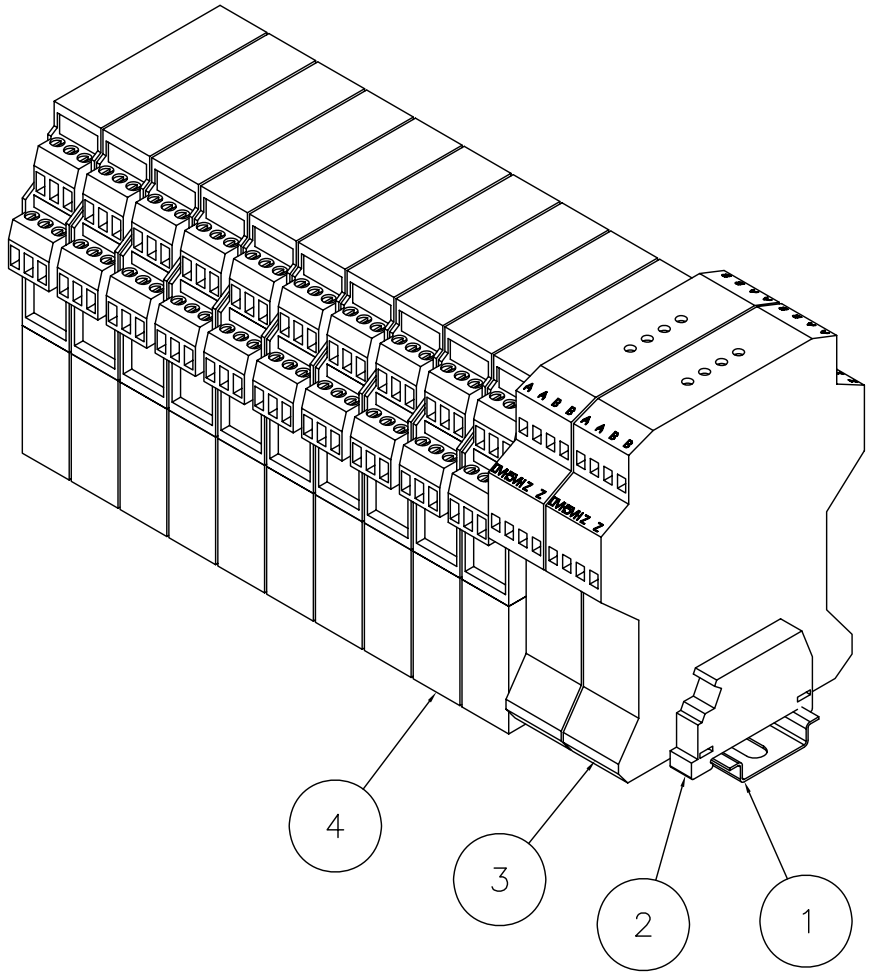
NEXT ASSEMBLY

SCALE *1'0"=1'0"*	DRAWN *RWV7089*	MOHAWK RESOURCES LTD.	
CHECKED	APPROVED	TITLE *Parallelogram Panel Assy - (9/2010)*	
DATE *7/08*	WEIGHT *70* LB.	FROM *n/a*	DRAWING NUMBER *P-110-A-037* B

D-SIZE







ITEM	NAME	DESCRIPTION	QTY
4	601-160-235	Interface Module Barrier	10
3	601-165-020	Encoder Barrier	2
2	601-165-061	End Stop	2
1	P-110-P-046	Din Rail, 10" Long	1

Parts List

C-SIZE

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TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME P-110-A-036

P-110-A-024

NEXT ASSEMBLY

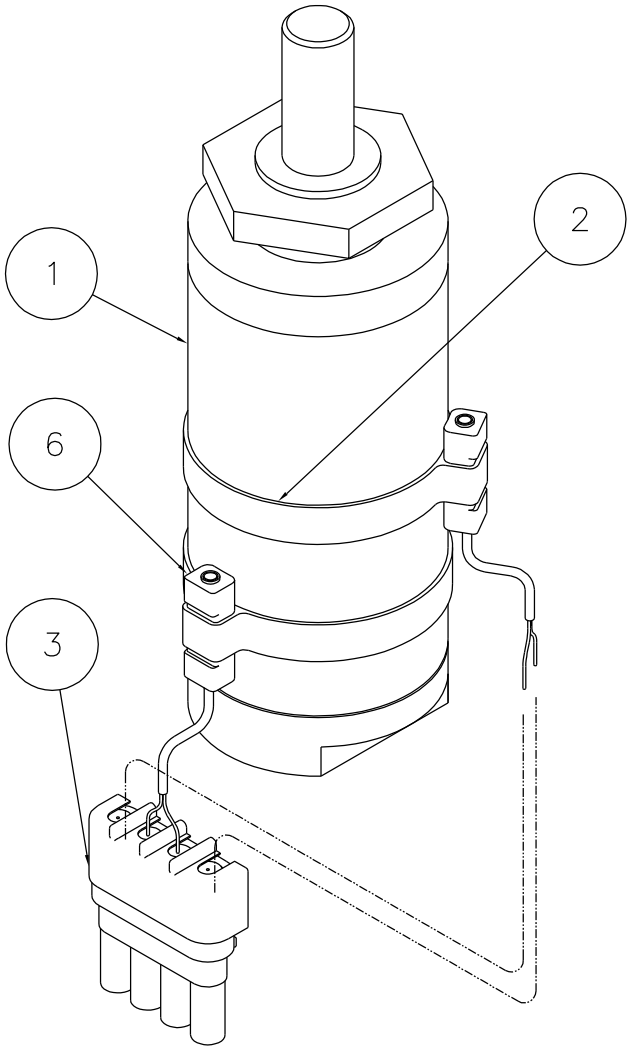
SCALE 1'0"=1'0"
DRAWN rwv7089
CHECKED
APPROVED
DATE 5/08
WEIGHT 4 LB.

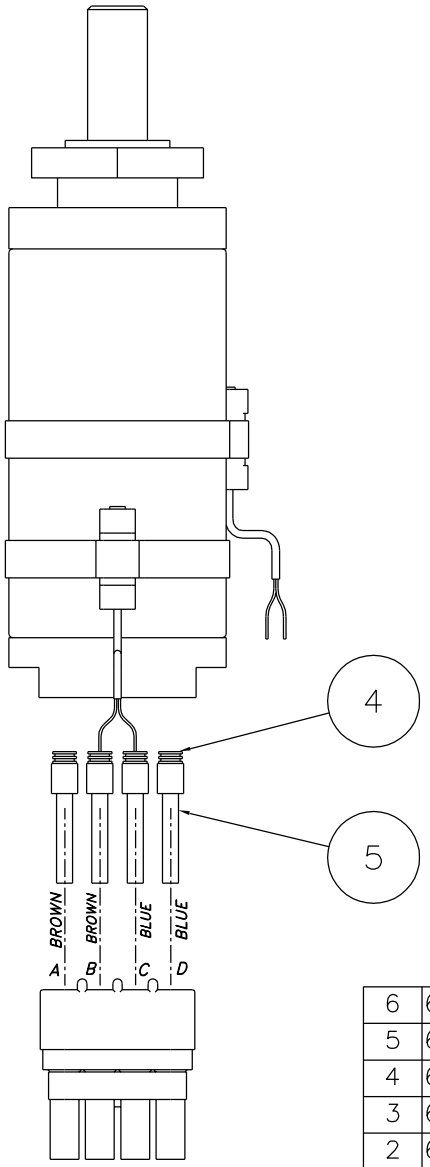
MOHAWK RESOURCES LTD.

TITLE FOR 4/6/8 LEG LIFT BARRIER STRIP ASSEMBLY

FROM

DRAWING NUMBER P-110-A-036





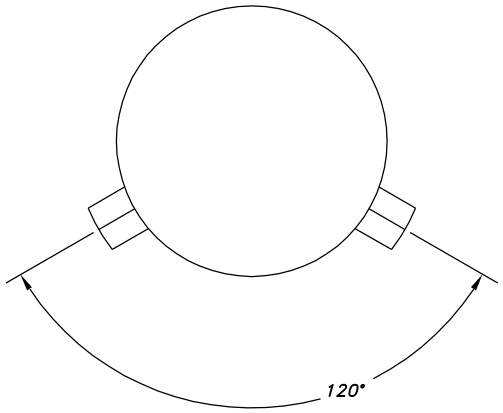
NOTES:

1. DO NOT OVERTIGHTED CLAMPS ON REED SWITCHES! (SNUG ONLY)

2. POSITION SWITCHES ON CYLINDER USING BATTERY MODULE.

TOP VIEW

ORIENT REED SWITCHES AS SHOWN



ITEM	NAME	DESCRIPTION	QTY
6	601-165-036	Reed Switch	2
5	601-165-042	Female Terminal	4
4	601-165-048	Cable Seal Red	4
3	601-165-044	4 Contact Tower	1
2	601-200-002	Clamp, Reed Switch, 1 3/4 Dia	2
1	601-200-001	Air Cylinder, 1 3/4 Dia x 1" Stroke	1

Parts List

C-SIZE

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TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME *P-200-A-002.dwg*

P-

NEXT ASSEMBLY

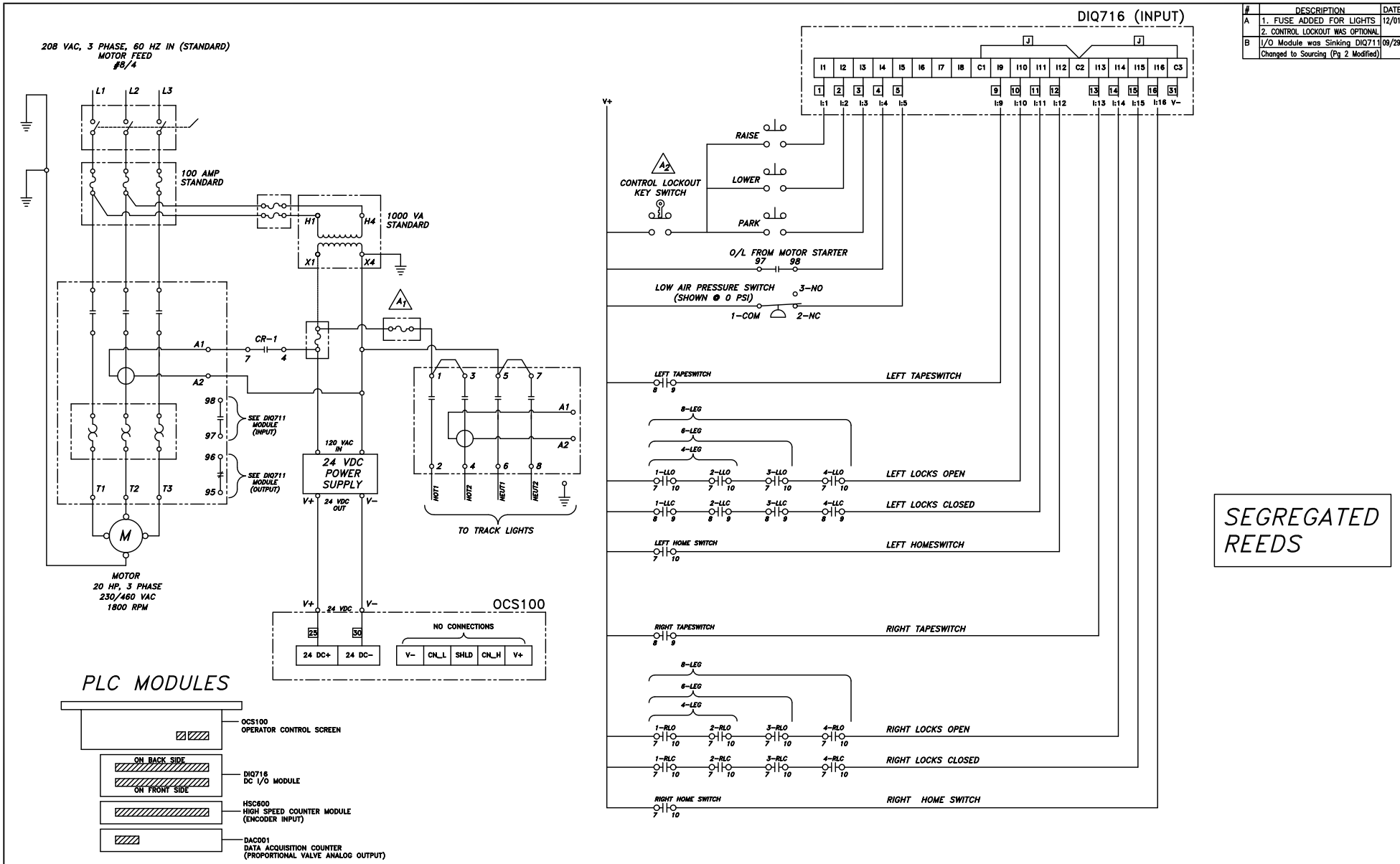
SCALE *NTS*
DRAWN *CDH*
CHECKED
APPROVED
DATE *10/16/02*
WEIGHT *.75* LB.
FROM *n/a*

MOHAWK RESOURCES LTD.

TITLE *Parallelogram L/R Air Cylinder Assembly*

DRAWING NUMBER *P-200-A-002*

#	DESCRIPTION	DATE	APPROVED
A	1. FUSE ADDED FOR LIGHTS	12/01/2008	rwv7089
	2. CONTROL LOCKOUT WAS OPTIONAL		
B	I/O Module was Sinking DIQ711	09/29/2010	rwv7089
	Changed to Sourcing (Pg 2 Modified)		



SEGREGATED REEDS

PLC MODULES

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TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME P-300-A-020

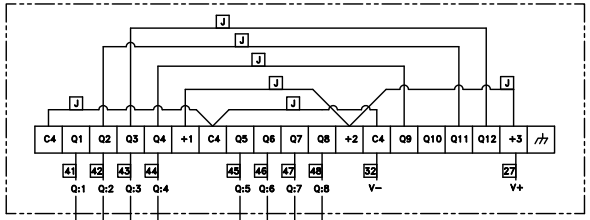
NEXT ASSEMBLY

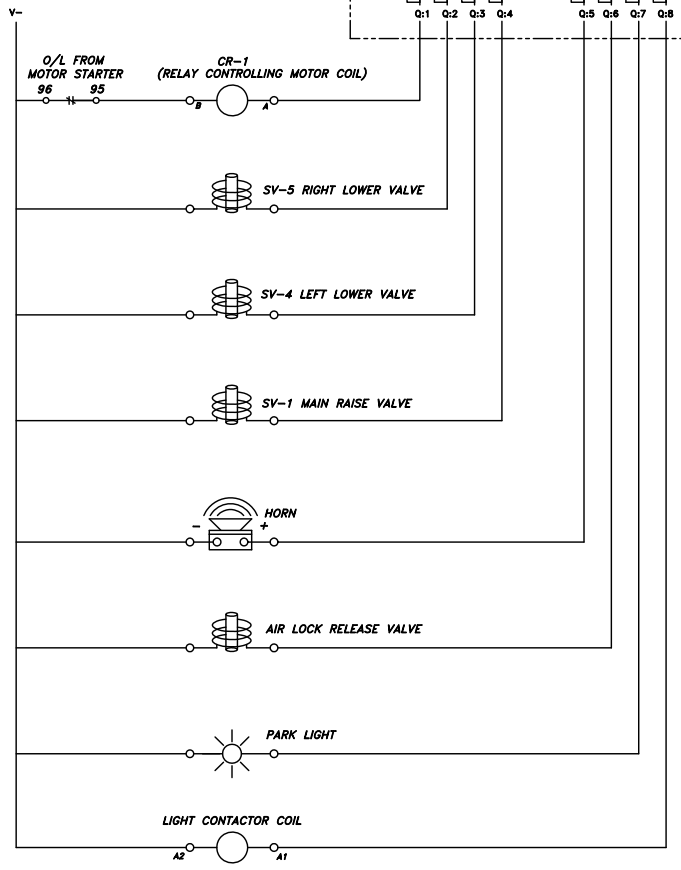
SCALE 1'0"=1'0"	DRAWN rwv7089	MOHAWK RESOURCES LTD.	
CHECKED	APPROVED	TITLE Parallelogram Elec Schem (Segregated Reeds)	
DATE 1/08	WEIGHT N/A LB.	FROM N/A	DRAWING NUMBER P-300-A-020 B

D-SIZE

PAGE 1 OF 3

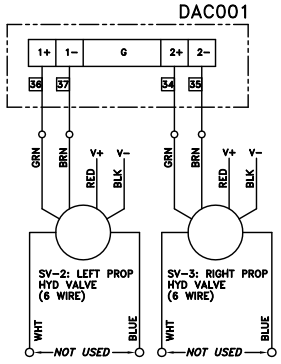
DIQ716 (OUTPUT) – SOURCING OUTPUTS

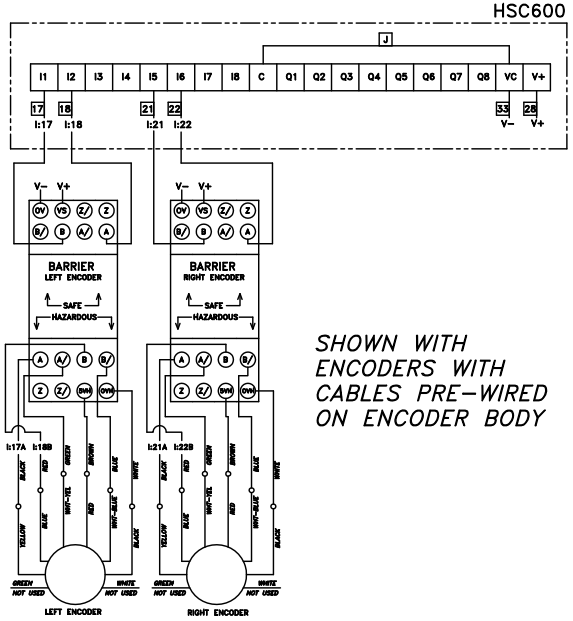




B

SEGREGATED REEDS





SHOWN WITH ENCODERS WITH CABLES PRE–WIRED ON ENCODER BODY

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NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70T1 CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL
.XX ± .030
.XXX ± .005

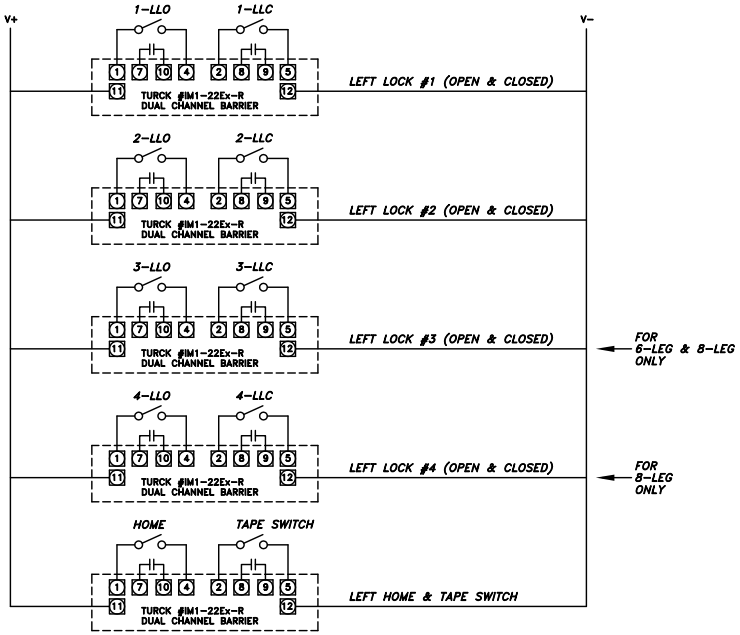
FILE NAME P-300-A-020

NEXT ASSEMBLY

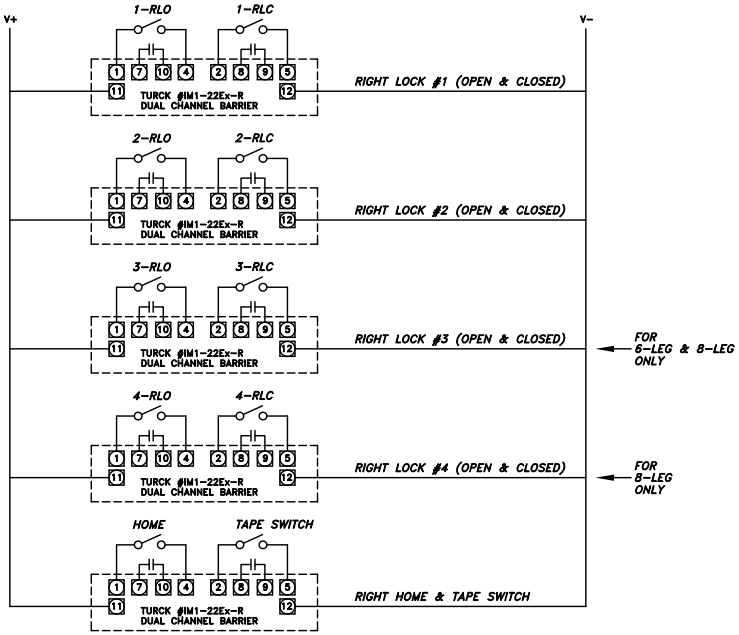
SCALE 1'0"=1'0"	DRAWN rwv7089	MOHAWK RESOURCES LTD.	
CHECKED	APPROVED	TITLE Parallelogram Elec Schem (Segregated Reeds)	
DATE 1/08	WEIGHT N/A LB.	FROM N/A	DRAWING NUMBER P-300-A-020 B

D-SIZE

LEFT REED SWITCHES



RIGHT REED SWITCHES



SEGREGATED REEDS

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TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
.XX ± .030
.XXX ± .005

FILE NAME: P-300-A-020

NEXT ASSEMBLY

SCALE: 1'0"=1'0"	DRAWN: rwv7089	MOHAWK RESOURCES LTD.	
CHECKED	APPROVED	TITLE: Parallelogram Elec Schem (Segregated Reeds)	
DATE: 1/08	WEIGHT: N/A LB.	FROM: N/A	DRAWING NUMBER: P-300-A-020

D-SIZE

FUSE CHART:

FOR ALL VOLTAGES:
(1) SECONDARY: 15 AMP, CLASS CC
GRAINGER #1CX48

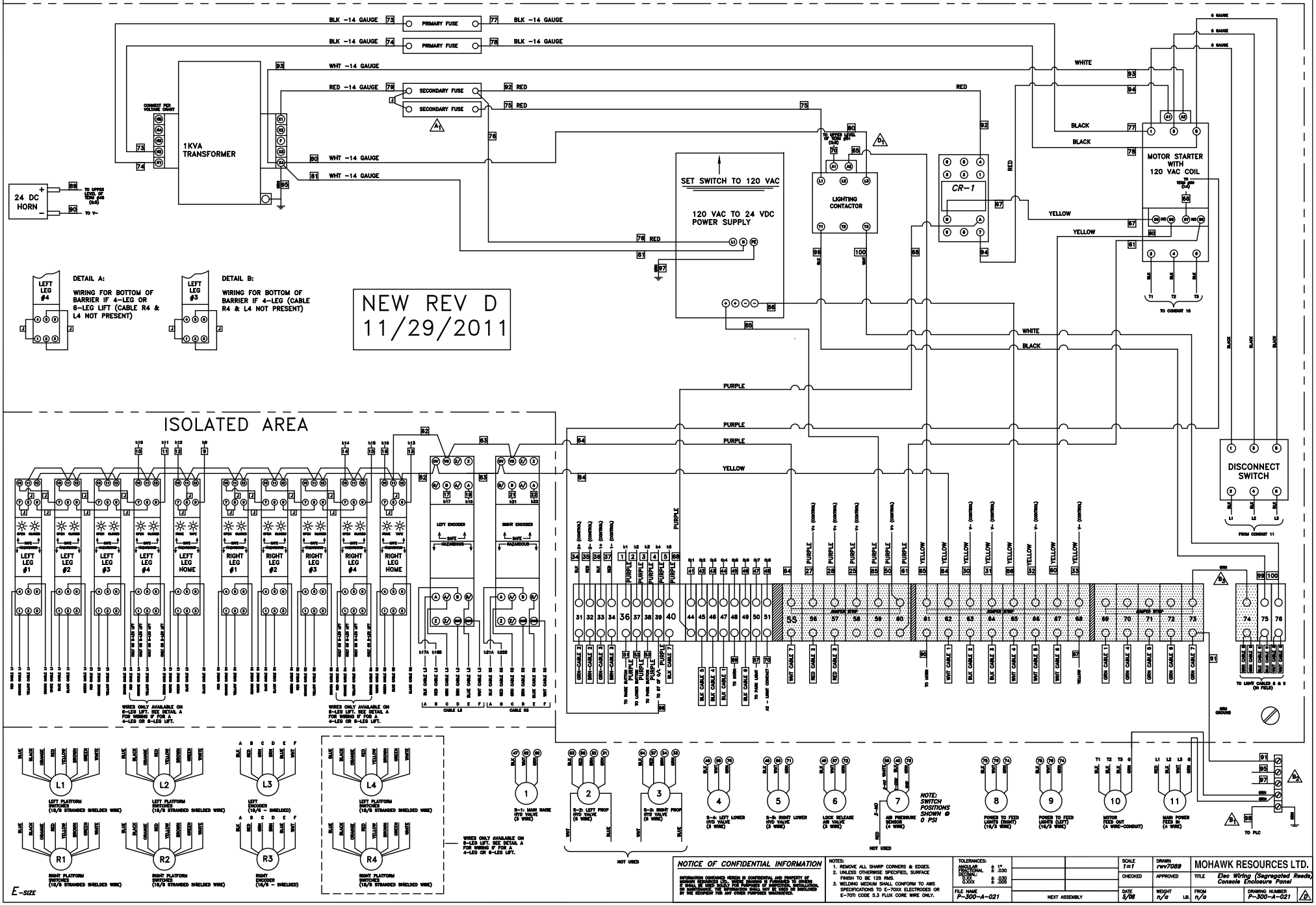
FOR 208 VAC, 3 PHASE:
(2) PRIMARY: 15 AMP, TYPE FNQ-R
(KLDR EQUIVALENT),
CLASS CC, GRAINGER #1CX48

FOR 440 VAC, 3 PHASE:
(2) PRIMARY: 10 AMP, TYPE FNQ-R
(KLDR EQUIVALENT),
CLASS CC, GRAINGER #6F122

NOTES:

1. ALL WIRING 16 GAUGE UNLESS SPECIFIED OTHERWISE.
2. ALL WIRING TO BE A MINIMUM OF 5" AWAY FROM COMPONENTS IN ISOLATED AREA (LOWER LEFT). RUN WIRING TO BUTTONS ALONG TOP OF ENCLOSURE, THEN DOWN.
3. PLACE FUSE DECALS NEXT TO FUSES WITH AMP AND VOLTAGE RATING.

#	DESCRIPTION	DATE	APPROVED
A	1. FUSE ADDED FOR LIGHTS	12/01/2006	rwv7089
B	1.) ADDED GROUND TO PLC 2.) ADDED GROUNDING STRIP	07/28/2010	G.GORE
B	3.) ADDED JUMPER		
C	Changed Wiring for New I/O Module Removed Diode Terminals	08/06/2010	rwv7089
D	Revised wiring for Siemens Brand Starters and Overloads.	11/30/2011	rwv7089



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TOLERANCES:
ANGULAR ±1°
FRACTIONAL ±.030
DECIMAL:
.X XX ±.030
.XXX ±.005

FILE NAME P-300-A-021
NEXT ASSEMBLY

SCALE 1=1	DRAWN rwv7089	MOHAWK RESOURCES LTD.	
CHECKED	APPROVED	TITLE Elec Wiring (Segregated Reeds, Console Enclosure Panel	
DATE 5/08	WEIGHT n/a LB.	FROM n/a	DRAWING NUMBER P-300-A-021

E-SIZE

#	DESCRIPTION	DATE	APPROVED
A	Wiring of Jumpers on Push Buttons Modified	10/21/2003	rwv7089
B	Input Module Reversed to Reflect Actual connections	08/25/2005	rwv7089
C	"CONTROL LOCKOUT KEYED SWITCH" WAS OPTIONAL	09/28/2005	dak0879
D	1. Wire #79 Changed to "J"	11/07/2006	rwv7089
E	1. "TO TERMINALS" NUMBERS ADDED.	02/15/2008	
F	1. GROUND FROM DOOR TO BOX ADDED.	12/01/2008	rwv7089
G	1. PARK LIGHT REWIRED (Q5 WAS NEGATIVE) 2. JUMPER REMOVED FROM PARK LIGHT AND V- ADDED. 3. Q1 THRU Q8 WERE YELLOW (WERE NEG OUTPUTS)	7/26/2010	rwv7089

○-TO TERMINALS

NOTES:
1.) WIRES 9 THRU 16 TO BARRIERS
2.) WIRES 17,18,21,22 TO ENCODER BARRIERS

OCS100
OPERATOR CONTROL SCREEN

DIQ716 (WAS DIQ711)
DC I/O MODULE
ON BACK SIDE
ON FRONT SIDE

HSC600
HIGH SPEED COUNTER MODULE

DAC001
DATA ACQUISITION COUNTER

RL HOME 10
RL HOME 9
LL HOME 10
LL HOME 9
LL4 9
LL4 10
RL4 10
RL4 9

NO CONNECTIONS

24 DC+ | 24 DC− | V− | CN_L | SHLD | CN_H | V+

C3 I16 I15 I14 I13 C2 I12 I11 I10 I9 C1 I8 I7 I6 I5 I4 I3 I2 I1

C4 Q1 Q2 Q3 Q4 +1 C4 Q5 Q6 Q7 Q8 +2 C4 Q9 Q10 Q11 Q12 +3

I1 I2 I3 I4 I5 I6 I7 I8 C Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 VC V+

1+ 1− G 2+ 2−

ENCODERS
SAFE SIDE

CONTROL LOCKOUT
KEYED SWITCH

PARK

LOWER

RAISE

BUTTON

LIGHT

BOTTOM SIDE

GROUND DOOR
TO ENCLOSURE
GROUND

C-SIZE

NOTES:
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TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME
P-300-A-002

P-

NEXT ASSEMBLY

SCALE 1:1
DRAWN rwv7089
CHECKED
APPROVED
DATE 2/19/2003
WEIGHT n/a LB.

MOHAWK RESOURCES LTD.

TITLE Electrical Wiring PLC & Buttons

FROM n/a

DRAWING NUMBER P-300-A-002

G

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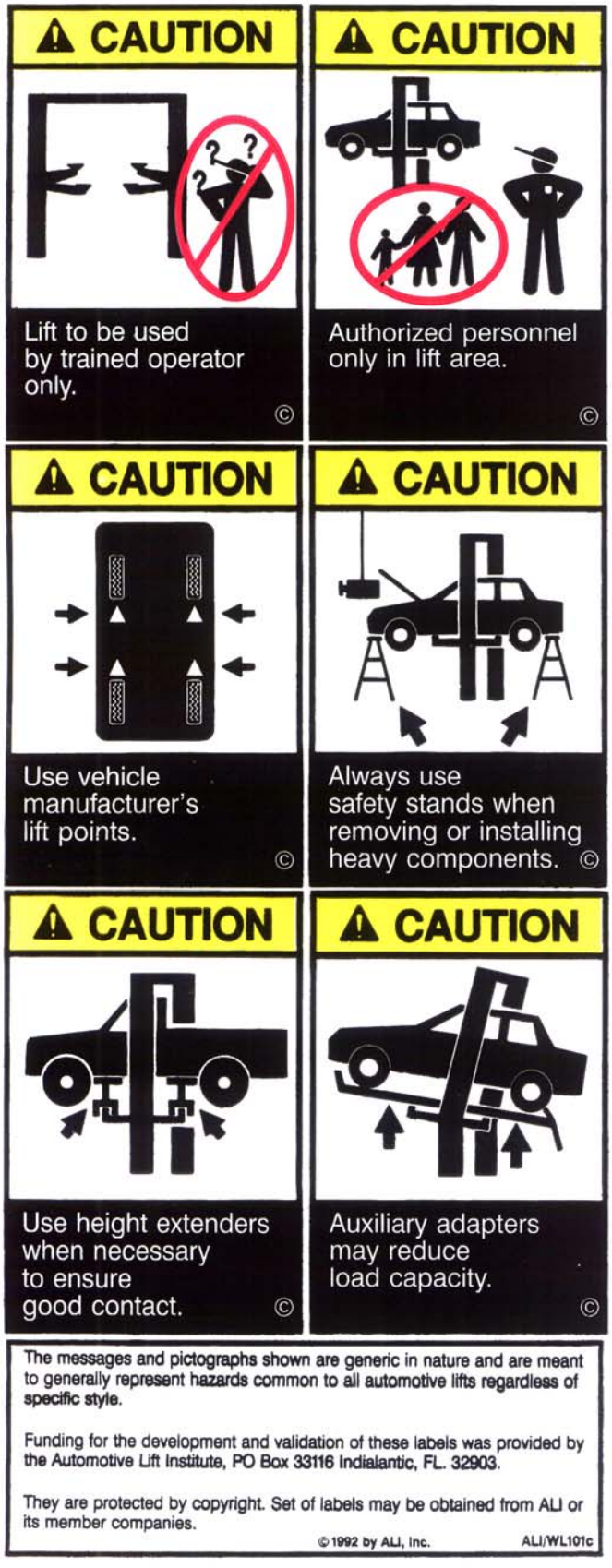
⚠ CAUTION
Lift to be used by trained operator only. ©
⚠ CAUTION
Authorized personnel only in lift area. ©
⚠ CAUTION
Use vehicle manufacturer's lift points. ©
⚠ CAUTION
Always use safety stands when removing or installing heavy components. ©
⚠ CAUTION
Use height extenders when necessary to ensure good contact. ©
⚠ CAUTION
Auxiliary adapters may reduce load capacity. ©
The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style.
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They are protected by copyright. Set of labels may be obtained from ALI or its member companies.
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⚠ WARNING
Clear area if vehicle is in danger of falling. ©
⚠ WARNING
Position vehicle with center of gravity midway between adapters. ©
⚠ WARNING
Remain clear of lift when raising or lowering vehicle. ©
⚠ WARNING
Avoid excessive rocking of vehicle while on lift. ©
⚠ WARNING
Do not override self-closing lift controls. ©
⚠ WARNING
Keep feet clear of lift while lowering. ©
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© 1992 by ALI, Inc. ALI/WL101w

SAFETY INSTRUCTIONS
Read operating and safety manuals before using lift.
©
SAFETY INSTRUCTIONS
Proper maintenance and inspection is necessary for safe operation.
©
SAFETY INSTRUCTIONS
Do not operate a damaged lift.
©
The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style
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MOHAWK.

Because Quality Lasts Forever.

Model USL-6000

Full rise, space-saving, no-post, portable scissors lift, offers full under-car access.

Model A-7

The A-7 is a 7,000 lb. capacity asymmetric lift that allows full opening of all vehicle doors as well as total undercar/underdash access, thanks to Mohawk's unique "clear-floor" design. Low 4" arms accommodate all imports and low-riding sports cars. Includes both 3" and 6" truck adapters.

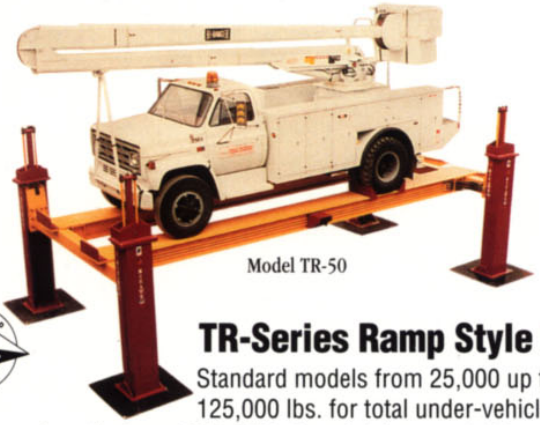
Model System I

The 9,000 lb. capacity System I, like all Mohawk lifts, features Mohawk's patented hydraulic equalization system with adjustable overhead (or optional underground) hydraulic lines. Offers low 3 1/2" swing arms and comes standard with truck adapters.

Model LMF-12, TP-15, TP-18, TP-26 & TP-30

These 12,000 to 30,000 lb. capacity models are the ideal heavy-duty lifts for up to Class VI trucks. Mohawk's unique "clear floor" design makes these the perfect lifts for all fleet applications. Truck adapters are standard equipment.

Model LMF-12



Model TR-50

TR-Series Ramp Style Lifts

Standard models from 25,000 up to 125,000 lbs. for total under-vehicle access. Ramp lengths from 20' to 50'. Completely operated by a single technician, and features fully interlocked, redundant safety systems.

MOHAWK
Mohawk Industrial Park • P.O. Box 110
Amsterdam, NY 12010
1-800-833-2006 or 518-842-1431
FAX 518-842-1289

www.mohawklifts.com